The Health Magazine of the American Medical Association

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JUL 23 1941

# HYGEIA

ex Education for the Married Couple

AUGUST · 1941 · 25c

# FACTS ABOUT FACE CREAM— A SPECIAL REPORT TO DOCTORS

By CARL WEEKS, President of the Armand Company, Des Moines, Iowa

Before a doctor recommends any product to a patient, he wants to know the product thoroughly and the company behind it. Since doctors are now being asked more and more to recommend face creams, Armand is giving here the list of ingredients in the New Armand Blended Face Cream. We believe as a result of exhaustive patch testing that these ingredients are the purest obtainable. In addition, we will explain why this new face cream will accomplish what the woman wants. With these facts, we believe doctors will be in a position to unhesitatingly recommend the New Armand Blended Face Cream.

## PATCH-TESTED FOR PURITY

To prove the New Armand Blended Face Cream is as pure, as nonirritant, and as near non-allergenic as it is possible to make a face cream, Armand employed a nationally known dermatologist to conduct comprehensive patch tests. These tests were made on women of various ages and complexions. Each ingredient in the New Armand Blended Face Cream was kept in contact with the skin by means of adhesive patches for seventy-two hours. Not one skin irritation appeared. It is our belief and the belief of the dermatologist who made the tests that the New Armand Blended Face Cream is as near non-allergenic as it is possible to make cosmetics.

The New Armand Blended Face Cream has a $p_H$ of from six to seven.

## EFFECTIVE CLEANSING

The New Armand Blended Face Cream is made from the following ingredients: Diglycol Stearate; Cetyl Alcohol; Medicinal Mineral Oil; Diethylene Glycol; Sorbitol; Triethanolamine, distilled water and perfume oils. This new cream is a polyphase emulsion—a mixture of oil-in-water and water-in-oil types of emulsions. It differs chiefly from most other face creams in that it mixes with both water and oil. This is of utmost importance because there are two kinds of dirt on the face—that which either mixes with or is soluble in water and that which either mixes with or is soluble in oil. Therefore, the Armand type of cream which mixes with both water and oil helps to remove both kinds of dirt from the face and is desirable for a more thorough cleansing.

## NOT A GREASE CREAM

Laboratory tests made with twelve nationally advertised brands of face cream prove that many cleansing creams are primarily grease creams. The New Armand Blended Face Cream is not a grease type cream. It contains no beeswax, heavy oils, or paraffin. It does contain organic substances such as cetyl alcohol and diglycol stearate. The diglycol stearate is the detergent that helps the New Armand Blended Face Cream to cleanse the face more thoroughly.

## TEMPERATURE TESTED FOR STABILITY

The stability test was made by subjecting samples of the twelve creams to 20° F. for 24 hours, then placing them in a control oven kept at 100° F. for 24 hours, then back to the ice-box at 20° F. for 24 hours, and so on. This switching process was continued for ten days, when the creams were observed for changes. There was no separation in the Armand cream. All creams were soft to the touch at 100° F. All creams were extremely hard at 20° F. excepting the New Armand Blended Face Cream which was quite soft. After the 10 day test the creams were applied to the skin to see if the emulsion broke or applied smoothly. Some creams broke; others, including the New Armand Blended Face Cream, applied smoothly.

## BETTER SKIN LUBRICATION

The independent laboratory consulted by Armand stated in their report on probable lubricating qualities of the twelve face creams tested: "Natural skin oil is a complex mixture of chemically unsaturated compounds related to some extent with the structure of cetyl alcohol in Armand cream. The mineral oil and petrolatum which predominates in some cold creams are chemically saturated long chain hydrocarbons quite unrelated in structure to the natural skin oils." We believe that the type of ingredient which is chemically related to the natural oil of the skin, such as contained in the New Armand Blended Face Cream, is a very effective aid in softening the skin.

## HAVE YOUR WIFE, NURSE, OR A WOMAN PATIENT TRY THE REVEALING ARMAND BLENDED FACE CREAM TEST

**STEP 1**

Smooth the New Armand Blended Face Cream on your face! Notice how light, fluffy and fragrant it is! Also, how cooling and refreshing!

**STEP 2**

Wash your face, in clear cool water, using no soap! The New Armand Blended Face Cream washes off even in cold water! It leaves your skin clean and fresh.

**STEP 3**

Now, dry your face. Notice how soft and velvety the softening ingredient in the New Armand Blended Face Cream makes the skin feel.

## MEETS PURITY AND BEAUTY REQUIREMENTS

Surveys of women at home, in the office, in the factory, and at college, point out that the average woman wants a better cleansing and lubricating cream than she has been getting. The New Armand Blended Face Cream gives the woman a new, light fluffy cream which not only effectively cleanses the skin, but effectively softens the skin as well. From the doctor's standpoint of purity, from the woman's standpoint of beauty, we believe the New Armand Blended Face Cream is as fine a cream as is available today regardless of price or package. All Armand products are sold at popular prices in better drug and department stores.

**FREE:** Send your name and address to Armand, Des Moines, Iowa, and a purse size container of the New Armand Blended Face Cream will be sent you free and postpaid.

BABIES SUPERVISED BY PHYSICIANS ARE BETTER BABIES

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## FORECAST

Weaker personalities among human beings break earlier and under less stress than stronger ones. But even the strongest of us need outlets for the frustrations, annoyances and tensions of day-to-day living in a frenzied world. Fortunately, human beings have found many tension releases, many kinds of steam vents, to preserve a balance.

Next month in "Outlets for Psychologic Tensions" Grace Rubin-Rabson evaluates the efficacy of these emotional releases we have developed to cope with the stresses of modern living.

The pessimistic conception most people have concerning the "change of life," like other traditional points of view, is based on sufficient truth to guarantee its perpetuation in the folklore; for it is easy to cite from one's acquaintanceship women who at the "change" experience great physical and mental discomfort and require medical attention on the part of the gynecologist and sometimes of the psychiatrist as well.

Carl G. Hartman, however, dispels this fallacy in "Sex Education for the Woman at the Menopause" in the September issue. "A more optimistic attitude is dictated by the facts," he says in explaining the menopause as a biologic necessity, and hence as an advantage to the race.

*Swift and spectacular as has been the recent progress in medical discovery, surgery has quietly kept in step. Every day, in thousands of hospitals throughout the United States, surgeons are performing operations that would have been impossible a few years—or months—ago.*

*In "Surgeon's Progress," Lois Mattox Miller reports on a few of the milestones the surgeon has recently passed in his unending quest for surer, safer and swifter ways to mend broken and diseased bodies, banish pain and prolong life.*

*Frequently the business executive's blood pressure is high, his arteries are hard and his temper is short. He is commonly irritable, nervous and melancholic. His brain is weary, his muscles are tired, his bowels are constipated and his stomach is acid. All too frequently he lies mumbling and muttering in a hospital bed, panting his life away as a result of high blood pressure and hardening of the arteries. When he stumbles and falls from apoplexy or after a shudderingly severe episode of cardiac pain, he is hurried off to the sleep from which there is no awakening. These are inevitable ends, for in spite of man's eternal struggle for life and for longer life, he cannot avoid death. But life might have been fuller and death delayed.*

*Read "Occupational Hazards of the Business Executive" by Edgar V. Allen, M.D., in next month's issue.*


# HYGEIA

**THE HEALTH MAGAZINE**

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# What can a man believe in?

LOOK AROUND YOU.

All one sees is change. Some of it pretty discouraging, too.

No wonder faint-hearted souls throw up their hands and cry, "What's the use? . . . We're done; finished."

Are they right—or is there hope for the future?

Of course there is. And if you don't think so, just visit any marriage license bureau. Stand there while one couple after another steps up. Watch their faces—alight with faith and courage. Look at their eyes—fixed confidently on one another; firmly on the future. They're not licked. They see something worth living for—something that millions before them have believed in and fought to preserve.

*Every Squibb product—whether made especially for prescription by the medical profession or for proper everyday use in the home—bears an individual control number. It means that each detail in the product's making has been checked against Squibb's high standards and recorded under that number at the Squibb Laboratories. Look for the name and control number when you buy. You can believe in Squibb.*

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**THE PRICELESS INGREDIENT OF EVERY PRODUCT IS THE HONOR AND INTEGRITY OF ITS MAKER**

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# "The Adcomber"

*looks at Hygeia ads*

"If winter comes—" who doesn't long to follow the sun to the romantic Southwest? Plan now to enjoy the delightful climate and many advantages of Albuquerque, N. M., this winter. A free illustrated booklet is offered on page 662. Ask for it!

• • •

If life has more years and pleasanter ones for Those Who Live Wisely—let's do likewise! Smart folks will find an important word to the wise about "acting your age" on page 642.

• • •

**Folks at home can learn from the Army how to prevent many little aches from becoming big pains. Don't miss the sensible illustrated talk on "Sick Call," page 597.**

• • •

Who wants "half a loaf" when he can get all? Or half the pleasure of a vacation—with all its new fun and new friends—when he may get full measure by wearing the right glasses? Better plan for some *good* sun glasses, too. Perhaps your doctor will recommend Sport Shade Soft-Lite Lenses, described on page 599.

• • •

In the battle of the wind and sun against your skin, summer is the time for the Big Offensive. Better meet it with a regular program of protective Nivea Creme or Nivea Skin Oil, as suggested on page 656.

• • •

Better strained foods for babies growing up — quicker work for mothers — when there's a Foley Strainer in the house. **Ask for your copy of the Strained Food methods booklet—no charge!** Page 648.

• • •

**MUST the baby's shoes "shuck down" at the ankle and chafe at the heel? A thousand times no!—IF mother and dad have outfitted him in Trimfoot "Cuddle-Back" shoes. Note the wear-resistant design — page 667. (Sized, ages one to five.)**

• • •

*Even if it's "only a scratch," every small wound calls for an antiseptic. And everybody — child or grownup — accepts first aid more willingly if given with painless Mercurochrome. Other good reasons for this "old reliable," too. See back cover.*

• • •

Would you have your daughter well-groomed? Lovely clothes—hair—immaculate person? Then let her choose Marcelle's new Cream Deodorant to help keep her fresh as a flower! Choose it for your own use, too. Effective. Mild. Reliable. Page 598. Look up and read up!

THE ADCOMBER.

# *Who's Who* IN HYGEIA

PETER J. BREKHUS, D.D.S., was born in Norway and has devoted his life to the search for causes and cures of the dental ills of mankind. His article, "From Witch Doctor to Modern Dentist," appears on page 638. In 1910 he joined the staff of the University of Minnesota dental school as an instructor, attaining a full professorship in 1923. In 1921 he returned to Norway at the invitation of the Scandinavian Dental societies and gave courses at the Universities in Christiania, Bergen and Helsingfors.

At the Minnesota dental school he is professor of crown and bridge work and head of the department of dental diagnosis. His deepest interest, however, is in dental research.

Dr. Brekhus has published several notable papers in the field of dentistry—one of which is reproduced in part in this issue; the other chapter from his book, "Your Teeth," will appear in a subsequent issue—and was influential in getting a research laboratory started at the University of Minnesota dental school, where workers are now trying to discover the basic causes of dental caries through biochemical studies and animal experimentation. He has also succeeded in having graduate courses in dentistry established at the university, in the hope of training better teachers and thereby bringing about further improvement in the profession.

Recently, the highest of all honors in dentistry—the William J. Gies Award sponsored by the American College of Dentists—was conferred for the first time in history on Dr. Brekhus.

BRUCE BROWN was educated at the University of Virginia and at Georgetown University. Author of "Sulfanilamide for Trachoma," page 608, he is a native of Piggott, Ark., but has lived at different times in both New York City and in Washington, D. C. Mr. Brown has been a bond salesman, a public relations man and fiction writter; now he has a novel making the rounds of the publishers—the most amusing thing of his life. He is a member of the National Press Club and is listed in "North American Authors." At present, he writes, he is trying to get back to San Francisco to stay.

EMILY HARTSHORNE MUDD, author of "Sex Education for the Married Couple," page 602, has been, from 1932 to the present, director and counselor of the Marriage Counsel of Philadelphia. Before attaining this position, she collaborated with her husband, Dr. Mudd, in the field of medical science at Rockefeller Institute, University of Pennsylvania and other institutions. Together they have published many articles in scientific journals.

Mrs. Mudd received her master's degree from the University of Pennsylvania and is now doing graduate work in sociology. She teaches at the University of Pennsylvania, Temple University and Swarthmore College and is a member of the American Association of Social Workers. She has published numerous articles emphasizing the importance of preventive work in the field of family relationships. She is President of the Parents Teachers Association of the Haverford Friends School.

Dr. and Mrs. Mudd have four children—the oldest planning to enter college in the fall, the youngest two years old. Also a member of the Mudd home was an English child who spent part of the winter with the family. Mrs. Mudd enjoys outdoor sports, particularly riding, swimming, tennis and mountain climbing. Dr. and Mrs. Mudd have a camp in New Hampshire where they spend their summers and occasionally a weekend in the winter.

Mrs. Mudd has recently become interested in amateur photography. A picture of her baby won a prize at a club exhibit. This honor, it is believed, has pleased her more than recognition she has received in other fields.

# Private Smith reports for Sick Call

PRIVATE TOM SMITH is feeling a little under the weather.

If he were back in civilian life, the chances are he'd say, "I'll be all right in a little while," and he'd show up for work as usual.

But in this man's Army of ours, a soldier who feels below par is required to report for "Sick Call," even if he thinks there's nothing much wrong. Private Tom Smith is simply obeying orders.

Because of this wise institution known as "Sick Call," our Army doctors have an opportunity to combat illnesses at the very start and are usually able to prevent them from edging over into the danger zone. This is one of the reasons why the standard of health in our Army of 1941 sets an all-time high.

In this there is a valuable lesson for many a civilian . . .

We're thinking now of the man who permits himself . . . and his family . . . to run risks which no soldier is allowed to take. We're thinking of the man who says, "If I don't feel better tomorrow, I'll see the doctor." But will he? And when he does, will it be too late? Too late to prevent a serious illness, or too late to gain the advantage of time in treating a disease already contracted.

So why not establish the "Sick Call" system in your household? Stomach ache, you know, is sometimes the first warning of appendicitis; a sore throat may be the forerunner of a condition which requires expert attention. When you, or any of your family, develop even a seemingly minor ailment, don't waste time which may be precious.

Call your doctor, and let *him* decide whether or not the ailment is trivial—and what should be done about it. He knows—you don't. Report for "Sick Call" promptly. Copyright, 1941, Parke, Davis & Co.

***PARKE, DAVIS & COMPANY***

***Detroit, Michigan***

***The World's Largest Makers of Pharmaceutical and Biological Products***

***SEE YOUR DOCTOR***

NOW MARCELLE PRESENTS A NEW BEAUTY AID

CREAM Deodorant

Petal-soft your skin may be—and as needful of careful handling. Petal-fragrant you must keep it—especially in that treacherous underarm area, so malodorous when it goes untended...

To help keep these dainty qualities of your skin, Marcelle—for eight years distributors of Safe Cosmetics—now presents a new cream deodorant. EFFECTIVE because it contains aluminum sulphate. MILD because skillful cosmetic chemists have blended it of purest emollient ingredients. RELIABLE because it belongs to the Marcelle family of cosmetics—known to doctors and their patients everywhere.

Groom yourself with Marcelle's newest safeguard for loveliness. Protects from one to three days... Deals gently with dainty skins... Helps keep you petal-fresh.

*If your dealer cannot supply you, write direct for information. A full ounce jar—50 cents!*

Marcelle COSMETICS

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1741 North Western Avenue, Chicago, Ill.

# LETTERS FROM *Readers*

### *Feet First*

To the Editor:

I have received HYGEIA and I'm highly pleased with it. I was especially pleased with the article, "Feet First," by Ellen Kelly. Pronation was especially bad in my 13 months old daughter but thanks to your magazine and Ellen Kelly I have had her shoes properly fixed and she is walking much better and her posture is much straighter, which is a pleasant relief to any mother.

MRS. EDWARD RUNNELS.
Seattle, Wash.

### *Make Love a Habit*

To the Editor:

Would it not be an excellent idea to reprint "Make Love a Habit?" It would do a wonderful lot of good to present each newly married couple with a copy. Mr. Popenoe has done a good piece of work.

ELISHA A. KING
Miami, Fla.

### *Leisure Reading*

To the Editor:

Our students use your magazine regularly in the sociology department. There is also constant demand for it just as leisure reading.

MARIAN BURTS,
Librarian, North Greenville Junior College.
Tigerville, S. C.

### *Medical Examinations*

To the Editor:

I feel that HYGEIA is an authoritative publication and, since I often speak before men and boys of mixed audiences, I like to read those articles which help me in my work. I am strong for "the joy of living" and do not think it makes much difference how long a man lives, as long as he "lives" while he is living. I am one of the comparatively few who take annual medical examinations and I am willing to pay whatever price it takes for health and usefulness.

DAVID W. W. FULLER
Montgomery, Ala.

### *Popenoe and Wortis*

To the Editor:

I want to express my appreciation for the splendid April HYGEIA. Of course, all issues of the magazine are good, but some are better than others. At least, some are more helpful to particular persons than others. Two articles in the April HYGEIA were particularly fine: Wortis' "In Search of a Normal Life," and Popenoe's "Make Love a Habit."

I have often counseled young people in much the same way, due, no doubt, to the fact that I have read Popenoe for many years and greatly admire his thorough scholarship and good sense.

SAM HEDRICK
Kansas City, Kan.

### *Insulin Crutches*

To the Editor:

I wish to commend you on the article "Insulin Crutches" by Mable Kinkaid Stabler, which appeared in the May issue of HYGEIA. I think the article would encourage all who read it, as well as diabetics, to be more courageous in their "fight" for health.

As a school teacher and homemaker, I think your magazine is excellent and the articles very helpful.

MRS. CHARLES GOBLE.
Edinburg, Ind.

# Why BE CONTENT WITH ONLY Half a Vacation?

New sights, new faces make up half the fun of going away. Do you enjoy them *all?* Or do your companions have to point out beauties which you would otherwise miss?

*Have your eyes examined before you go.* This may make all the difference between a breathtaking landscape and a drab countryside — between a hotel full of strangers and a room full of warm and pleasant friends.

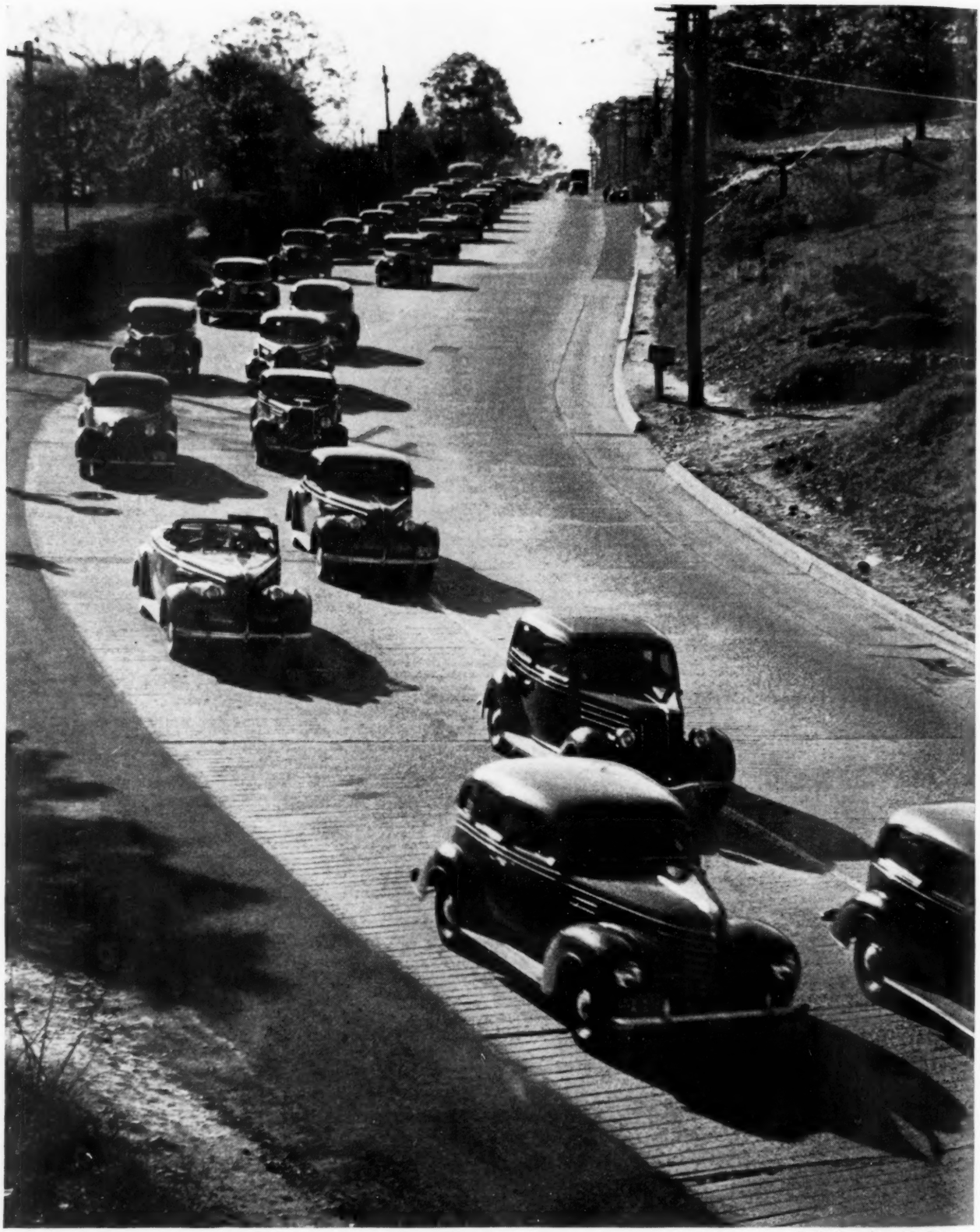
Examination takes little time and less trouble. It will help to assure a vacation full of the pleasures which can come only through good vision. Make an appointment today.

THE IDEAL GLASSES FOR WEAR IN THE SUN

Whether or not you need to wear glasses regularly, you'll find the new Sport Shade Soft-Lite Lenses a great comfort in brilliant sunshine. They are made, of course, of the finest quality optical glass. They completely ward off glare without distorting color values. You may have them ground to your prescription or "plano" (no focus) if your eyes need no correction.

Soft-Lite Lenses

*Published in the interests of better vision by Soft-Lite Lens Company, Inc., New York, Toronto, London*



*R. I. Nesmith and Assoc.*

Tests have shown that driving efficiency decreases most sharply after the first two or three hours, and that it is impossible to determine the actual point at which this efficiency drops below the safety line.

# Motor Accidents on American Highways

SUDDEN DEATH still strikes on American highways. Traffic fatalities still continue as a major cause of death in the United States. The time may yet come when the motor car will be known as Public Killer No. 1. With a record of 35,000 killed and at least 1,300,000 seriously injured each year in motor car accidents, the motor vehicle would seem to be more deadly than the threat of bombers.

An average big day was Oct. 4, 1940, when 85 people were killed and 1,496 others were critically injured. Sixty-three were men and boys, and 22 were women and girls. One was a philanthropist, another was a prominent doctor, another was a university professor, and still another was a worker in the sugar beet fields. However, the motor car accident is no respector of persons. The great and the small, the high and the lowly are figured largely among the wreckage. In an accident that just occurred, eight players in Skinnay Ennis' band were subjected to fractures, bruises and hemorrhages. In that case, the driver of the bus carrying the players ran the bus into a telegraph pole near the center of the road.

In almost every case the driver of the motor car is responsible. Occasionally, it is the machine, but as with accidents now occurring in airplanes, the driver is far more often responsible for the accident than is any breakdown of the machine. For that reason, the National Institute of Health, utilizing its physicians, psychologists, biochemists and biometrists, has completed an intensive study of 889 truck drivers, with a view to determining accurately the mental and nervous fatigue resulting from hours of driving under actual road conditions. The test showed that driving efficiency decreases most sharply after the first two or three hours, and thereafter decreases gradually. It is impossible to determine the actual point at which driving efficiency drops beyond the safety line. However, the Interstate Commerce Commission now requires that truck and bus drivers be off duty eight hours after driving ten hours. Unquestionably, safety requires the average motorist to avoid long, uninterrupted periods of driving. The latest investigation shows that at least one accident in every hundred is due to the fact that the driver was asleep. People who fall asleep while driving try to conceal the fact. However, if a record is kept of the amount of sleep that a driver has had previous to the time of the accident, one can get a fairly good indication as to the need for sleep at the time of the accident. It is not always an unintelligent man who falls asleep at the wheel; it is, however, always a careless one. In a series of studies made on this point it was found that one accident concerned a college professor hurrying home from a long vacation, another was a salesman who wanted to be on hand in a small town the next morning for a conference, a third was a farmer who had been celebrating on a visit with his nephew in town, and a fourth was a clergyman who got up too early in the morning to make an appointment.

Many studies have been made in an attempt to find out how to prevent sleepiness while driving. One invention was a collar with a sharp point which punctured the chin each time that the chin fell forward. Another was an elaborate harness that was hung on the head so that a bell rang when the head dropped forward. Another technic is the frequent drinking of strong coffee at roadside stands. Some drivers are firm believers in soft drinks which contain caffeine. Other drivers have tried to stimulate themselves after long hours by taking the so-called "pep pills," which is a drug named benzedrine. The taking of stimulants is like whipping a tired horse. It merely increases the fatigue and pushes forward the movement of collapse.

The worst example of folly is the person who takes a vacation as a means of rest and relaxation and then exhausts himself in driving either to or from the place where he plans to rest and relax. If one is planning to drive by motor either as a form of vacation or as a part of a vacation plan, drive only a few hours each day and get plenty of rest and relaxation between the periods of driving.

# Sex

The necessity for sex education and information is never more vital or important than it is during the engagement period and the earlier years of marriage.

THERE IS NO STANDARD form of sex education which meets the needs of every engaged or married couple. This fact is evident often in the requests which come to the counselors in the Marriage Counsel of Philadelphia—a community nonprofit service in which nearly half the clients who come for counseling interviews are engaged couples.

"We have so many questions to ask;" said one engaged girl, "our course in high school only hinted at the facts of reproduction. The teacher was so embarrassed that the girls became embarrassed too. My mother could not help me much. She said: 'Oh my, how young people talk.'" Another young woman, recently graduated from college, said, "I'm engaged and soon to be married and I'm quite naturally faced with some questions." Another married woman said hesitatingly, "It has taken more than courage to come here. It seems to me as if I have always been hushed up about sex all my life."

The need for sex education and information is really never more vital or important than it is during the engagement period and the earlier years of marriage. Young men and women think and feel deeply in their desire to make their romance into a marriage which they feel ought to be the greatest thing in their lives. They ask questions, seek advice and read books. Some are able to find out what they want to know and make good use of their knowledge; some are not. Others realize vaguely that attitude and ignorance are responsible for much of the difficulty and the misery in their marriage. Some few recognize

# Education

## FOR THE MARRIED COUPLE

By EMILY HARTSHORNE MUDD

too late how their own ignorance has led to unhappiness in the marriages of their children.

Ideally, sex education for marriage should begin prenatally in the successful and joyous living together of the parents. As one girl remarked: "I consider marriage a comfortable thing—living with some one who is my companion as well as my husband. To me it is something ideal, something truly to be worked for, and something necessary for a full, meaningful life. I have these ideals because my mother and father were so happy together and I know that my brother and my sister are happily married." A man, who came to us because he felt his marriage was unhappy and unsatisfactory, illustrated the other side of the story when he said, "When I was a little boy and asked my mother questions about sex relations, she said: 'Such things are awful. I endure them only because of your father.' She shuddered as she spoke and I enquired no more."

Sexuality is an integral part of the whole personality. Its development is a measure of the degree to which a person has matured. Therefore, sex education should not be thought of as an isolated or restricted body of information but rather as one process among others in the natural and gradual growth of infancy, childhood, adolescence and adulthood. Sex education for the adult should come about naturally through the opportunity of living and working with men and women who are unafraid of and respect this expression of life and who have accepted it as a natural, vital part of living. Much of this learning does not depend on the spoken or written word but on the observation and imitation of general attitudes and habits of emotional expression. We have learned from our experience in marriage counseling that much help can be given in indirect ways.

If reliable information was provided during childhood or adolescence when the interest in this information arose and if these earlier questions were answered accurately and naturally without embarrassment at the time they were asked, then the problems of the adult can be intelligently handled. Most people who have had a satisfactory background such as this take these problems in their stride without undue worry.

The new problems, even for the person who has had adequate earlier training, grow out of the needs of two people adapting to and living with each other. The engaged couple or the newly married couple have a supercharged emotional attitude toward each other. They are happy and want their happiness to last. They are more anxious and willing to learn and are more pliable in their emotional attitudes than they ever have been before or will be again. Sex education for these people concerns itself more with values, methods and comparisons, than it does with specific information.

Sources of advice and help are now available through doctors, ministers, teachers, social workers, psychologists, lawyers and others who during their work come in contact constantly with marital situations. More specialized and adequate are the marriage counsel centers.

These centers are organized independently as nonprofit community services or under the auspices of other community groups. They offer, through their trained personnel, information, education and guidance in questions relating to preparation for or adjustment in marriage. Another source is to be found in college courses in marriage and family relationships which are being increased in response to student pressure. In addition, some of the courses on homemaking in home economics schools, or such unique training centers as the Vassar Summer Institute of Euthenics, or the training courses for teachers given by Dr. Ernest Groves at the University of North Carolina provide special opportunities.

Finally, books and pamphlets on the subject of sexual development and behavior are a source of education which have appeared in variety during the last decade, some excellent, some poor and some deplorable. The best of these should be easily and inconspicuously available for all age groups in the home, the church, the school, the public library and the college. It is difficult to provide a reading list suitable for all couples since the previous education, interests and special problems of the couple are largely unique. If the shelf of readings is diverse in its offering, however, those books or pamphlets most nearly related to a particular problem can be selected.

Many people, both young and old, are finding increasing values from sources such as have been listed. However, ideal conditions for preparation for adjustment to marriage exist but seldom in the home, school or college. Our experience shows the need exists throughout the country for better marriage counseling facilities of all kinds.

Every married couple should understand or have access to information on the following relationships which are most often involved in the problems of marital adjustment as well as in personal peace of mind:

(1) The elementary anatomy and biology of the reproductive organs should be understood. Just as one is a better driver of an automobile if its mechanical principles are understood, so will one be in better control of the self if human biology is comprehended.

(2) The possible variations in feminine interests, desires and physical reactions in relation to the menstrual cycle are manifold but observation and allowance by both the husband and wife can add to marital happiness.

(3) The psychology of sex satisfaction grows out of the biology of the male and female. A normally developed woman has the possibilities of satisfying her sexual capacity just as much as a normally developed man. Women usually require a combination of tenderness and sensuality before they can give themselves completely in the love relationship. Men require less tenderness and are more direct in their reactions and, therefore, sometimes find it hard to understand and complete their wife's needs.

(4) Most couples find pleasure in learning to meet and satisfy each other's needs and desires. Many couples find pleasure in experimentation and variety in their mutual love relationships. There is no one correct way of love; rather, many couples find that love grows on subtle change and variety.

(5) Simultaneous satisfaction is not always possible and even those who have achieved it may not experience it at all times. A couple who have worked out a mutually satisfying and happy method of sexual expression usually find that it grows out of their unity and can be a cornerstone of vital importance to happiness in marriage.

(6) The married couple should remember that a holiday spirit of relaxation, spontaneity and wholehearted enjoyment, and, in addition, plenty of time, fastidious personal cleanliness and attractive and private surroundings all act as favorable influences in sexual adjustment. By the same token, continuous mental, nervous or physical fatigue or carelessness in personal hygiene of one or both partners can account for many difficulties, dissatisfactions and frustrations.

(7) Adequate spacing of children may be advisable for the health of any woman. Therefore, the use of some natural or mechanical method of family limitation may be important. Every woman should feel free to ask her family physician or obstetrician for this information.

(8) The sexual relationship in marriage seldom continues to be satisfying to both partners if either partner has consciously or unconsciously dominated the other through coercion or through possessiveness. Marital happiness is not a question of either wholly give or take, but rather of emotional compromises gladly made since they add to mutual affection.

(9) Most marriages can be successful if both partners employ the necessary time, thought and good will *(Continued on page 656)*

# Recreational Therapy

***Although diversional activities have been used in mental hospitals for over a century in this country, only recently has consideration been given to the patient's interests, his physical and mental levels and to his specific disease***

**By JOHN EISELE DAVIS**

A VISITOR to a large and modern mental hospital was interested in a patient who was attempting to play golf. The instructor was attempting to direct the patient's attention so that he could hit the ball. The situation was tense as the patient reacted to the uncomfortable predicament of trying to pay attention to imaginary voice hallucinations and to the voice of the instructor who was tactfully directing the patient's attention toward the ball. Finally, sufficiently overcoming these distractions, the pupil made an awkward shot, sending the ball a short distance down the fairway.

The instructor explained to the visitor that golf is a most intriguing game for mentally sick patients and, by way of further illustration, called attention to another patient who was making his approach shot. He had good form and his careful study and concentration on the play situation indicated that he was apparently entirely normal. The physical instructor said that both patients were suffering from the same form of mental illness and were hallucinated alike. The difference in their reaction to a similar situation was due, among other things, to the fact that the latter had become intensely interested in the game and had played for almost three years. He had started, as did the first patient, with many interferences and hindrances in the form of voices which occupied his attention and distorted his playing.

When he got ready to hit the ball the voices would come into consciousness and irritate him to such an extent that he would frequently swing the club in the air to ward them off. He would not give up, however, and as he continued to play he became more able to pay attention to the ball and the course. The imaginary voices continued to confuse him although in somewhat lesser degree. He found also that he was experiencing a desire to play the game better but that he could not if he allowed the voices to distract him. But slowly he seemed to gain better control of himself as he improved in play skill, finally reaching a stage when he was able to devote his attention to a surprising degree on the play experience. He became so involved in the game that his pressing ideas and tormenting voices were relegated farther into the background. At the present stage of his reeducation he is much more calm and stable. The instructor, however, did not imply that an interest and participation in play is in itself a cure for hallucinations, or for mental illness. Increasing experience in this field points to the fact that recreation medically prescribed and administered does have a distinct tendency to increase the patient's field of normal activity.

Further conversation with the instructor showed that he was more than a teacher of conventional physical education. He was a therapist—a doctor's assistant in carrying out adjunct medical procedures. He is sometimes

referred to as a medical technician, such as the physiotherapist who is skilled and especially trained in the physical adjuncts: massage, heat, water and electricity. There is also the occupational therapist who employs arts and crafts as therapeutic adjuvants. The physical instructor also explained that this is in a relatively new field of treatment, the medical utilization of recreation in the rehabilitation of those suffering from mental or physical disease. All these therapies are simply adjunct treatments, never an end in themselves. They are only effectively used in a well-rounded program of rehabilitation prescribed and carried out under the supervision of the doctor.

Most people have heard little or nothing of this new field of treatment. While diversional activities have been used in hospitals for over a hundred years in this country, it has been only in the past twenty-five that highly diversified programs have been used. The careful graduation of these activities to meet the various types of disease, the patient's interest and his physical and mental level may be conservatively stated to represent an accomplishment of the last decade. During this period, this form of adjunct treatment has gained much in medical prestige and respectability until today recreational therapy has become a most important avenue of treatment in both state and federal hospitals, as well as a most extensively employed approach of private sanatoriums.

Dr. Samuel Hamilton, Mental Hospital Advisor of the United States Public Health Service, reminds us that state hospitals are now adjusting their budgets to include recreational therapists. The New York State Hospital System has provided a program of activity for over forty thousand patients. The recreational program centrally organized and coordinated is supervised by a state director. The highly diversified program, including such activities as folk dancing, sports and formal calisthenics, has been organized to meet the needs and interests of many types and grades of patients. Advanced research is being made to determine the most effective psychiatric technic which may be produced through the broad avenues of play. Other state systems, as in Massachusetts and Illinois, are also taking progressive steps in the employment of recreational therapy.

The Veterans Administration is laying much stress on therapeutic recreation in their mental hospitals and are also employing comprehensive programs in the Soldier's Homes. Specially trained physical directors and recreational aides are responsible for carrying out the programs under general medical supervision. One of the large mental hospitals of the Veterans Administration organizes an annual award day and play festival in which hundreds of mentally sick patients compete with outside teams in baseball, softball, volleyball, golf, tennis, shuffleboard and other sports.

Many thousands of visitors have attended these activities at which noted speakers present medals to the patients who have won individual championships and certificates of proficiency to members of championship teams. The patients attain an amazingly high degree of skill in those sports in which they can find sufficient interest to win the majority of events against strong outside teams. This surprising ability shown by the mentally ill in sports was stated epigrammatically by one of the patients: "The mentality may become bent but the athletic bent remains unbent."

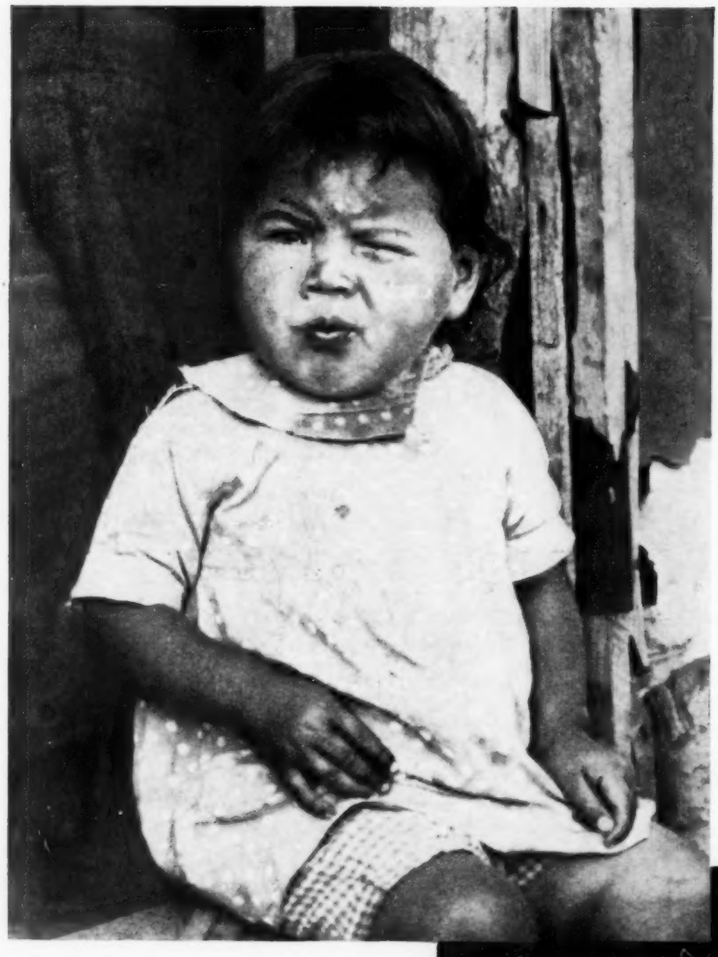
There are several benefits recreational therapy may contribute to the mentally sick patient. Many such patients are physically inactive and will become more so unless some means is discovered to stimulate them. Play selected with careful reference to the patient's early history and to his mental and physical capacity may gain his interest and lead to active participation. Some such patients who have regressed until they are no longer able to dress or feed themselves have been inducted into low level play activities. In these play forms they have found a stimulating interest leading to an improvement in their physical condition and the restoration of the habits of dressing and feeding. All mentally sick patients, however, do not respond so favorably.

Recreational therapy is also a psychologic aid. It helps mentally sick persons gain recognition for worthwhile accomplishments. The patient suffering from mental illness frequently feels that he has ability which society will neither recognize nor acknowledge. He knows that, like all persons, he has some special gift, he can do some thing or things better than the average person considered sane. In the clear and impartial field of sports, the patient shows his ability. The stigma attached to his disease—the misconceptions of the public—do not affect him there. He plays a good game and gets a good hand from the spectators. Such recognition for ability means much to the mentally sick person; it boosts his courage

and gives him the incentive to enlarge his sphere of activity.

Recreation organized and carried out for its therapeutic possibilities will help the sick patient get along with other people. It is generally known that a chief characteristic of the psychotic patient is his asocial makeup. He is prone to live for and by himself; he shuns group contacts. An important therapeutic aim is to bring him back to the desire to live with others. The term resocialization looms large in modern hospital practice and there is probably no more effective means to this end than can be found in a game suited to the understanding, capacity and interest of the patient. In such a play *(Continued on page 671)*

The patient reacted to the uncomfortable predicament of trying to pay attention to imaginary voice hallucinations and to the instructor who was directing his efforts.



***Two dramatic discoveries have been made by physicians of the United States Indian Service on the nature and cure of trachoma***

**By BRUCE BROWN**

Above: Eugenia Thompson, full blooded Chippewa child, is shown at the start of the new sulfanilamide treatment to cure trachoma. She had been treated only a day and a half in this photograph, but the blood-tinged discharge ceased and she began to open her eyes.

Right: After two weeks of treatment, little Eugenia looked like this. She is now able to open her eyes fully.

*U. S. Indian Service*

# Sulfanilamide for Trachoma

HIGHLY CONTAGIOUS, trachoma, the dreaded eye disease, spreads rapidly in time of war when troops and civilian refugees mingle.

Two dramatic discoveries have been made by physicians of the United States Indian Service on the nature and cure of this malady. The first discovery was that it was caused by a virus. The second was that sulfanilamide in internal doses accomplished "arrested" cases after a month's treatment.

The disease is widely prevalent in the countries now engaged in war: the Mediterranean islands and the bordering countries, Italy, the Balkans, Greece, Turkey and throughout Asia-Minor and parts of Africa. Such ancient civilized countries as Palestine, Greece, Syria, Iran, Iraq, Egypt, Thailand and French Indo-China have probably endured trachoma the longest. Endemic over half the earth's surface, the disease has reached epidemic proportion. Physicians' estimates of incidence range from one third of the population of China to 98 per cent of the Egyptian population.

Attributed to the lack of adequate washing facilities, use of germ-infested towels and crowded living conditions, trachoma is sometimes caused by exposure to wind, dust and the sun. In its chronic form it is attended by ulceration of the cornea.

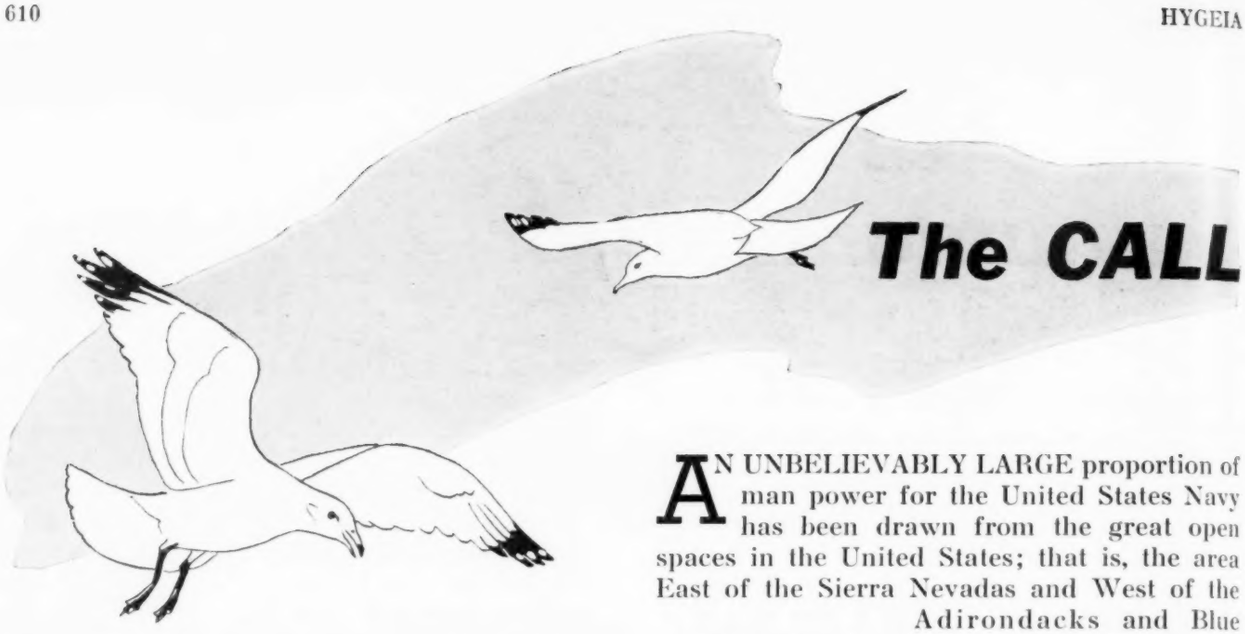
Trachoma occurs frequently among the peasants of Poland, and thousands of fresh cases broke out in Germany when Nazi troops returned from Poland.

But soldiers, as implied carriers of the disease, are not alone; refugees and immigrants have introduced it in new regions. During the Spanish Civil War, two prominent British physicians protested the evacuation of 4,000 Spanish children to England because of trachoma. In 1922 the disease multiplied greatly in Greece with the influx of one and a half million refugees from Asia-Minor.

Devastating percentages of blindness have been discovered in Palestine and Egypt because of mass trachoma infection among the

*(Continued on page 642)*

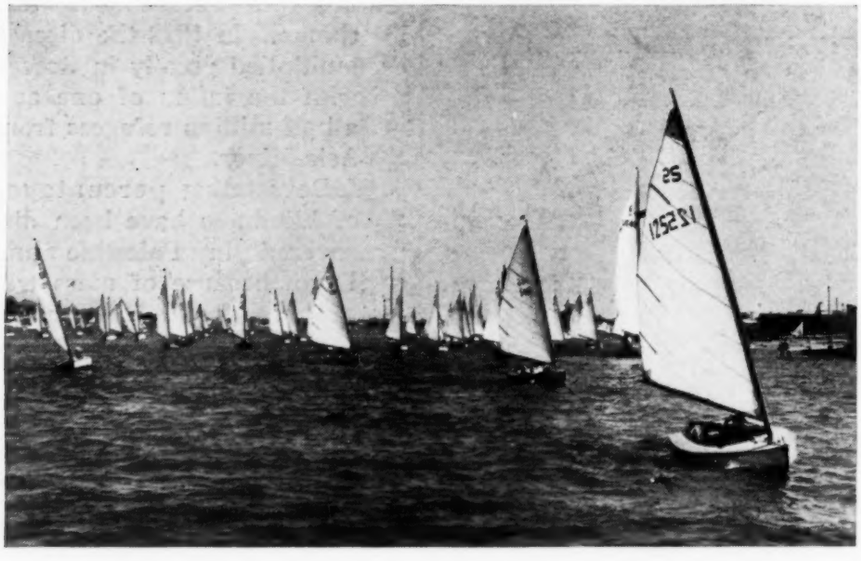
An Indian Service field nurse on the Fallon Reservation, Nevada, examines the eyesight of an Indian child as a precautionary inspection for trachoma.



# The CALL

AN UNBELIEVABLY LARGE proportion of man power for the United States Navy has been drawn from the great open spaces in the United States; that is, the area East of the Sierra Nevadas and West of the Adirondacks and Blue Ridge Range. The reason is not difficult to fathom. To every youngster not born within the visual boundary of the sea shore comes a craving to see and absorb the mysteries of the deep blue sea. He learns at school, he reads adventures of travel, he plans to explore the far flung reaches of the Seven Seas. He wants particularly to visualize and to partake in adventurous jaunts into the heart of the tropics, the polar regions, to visit the glaciers, and above all else to ramble through those islands abounding in fairy tales and so indelibly bound up in books of glamor and adventure, the great Archipelago of the South Seas. What red-blooded American youngster has not dreamed of owning a boat and some day setting sail and steering a course for Christmas Island on which Daniel Defoe so vividly portrayed Robinson Cru-

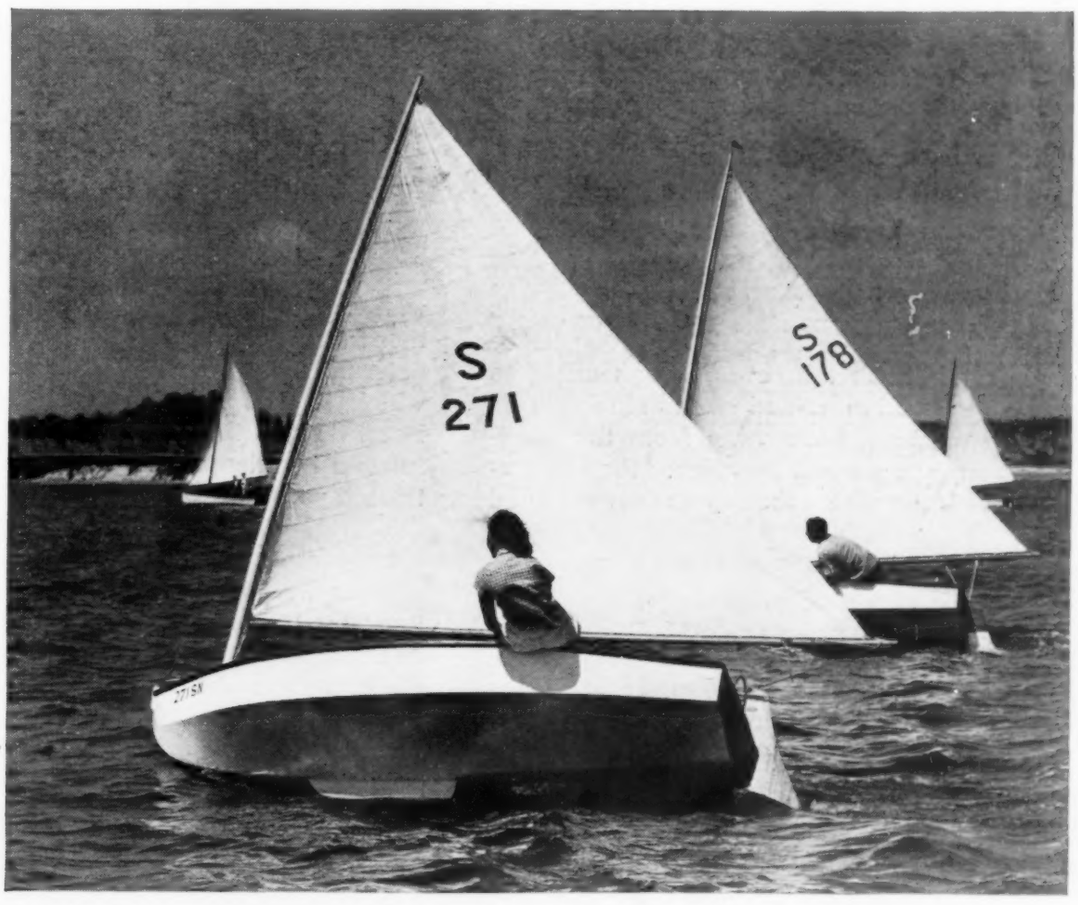
Most small-boat sailors carefully check their gear before each race.



The Snowbirds, small sloops built to class specifications, start out on the first leg in a broad reach.

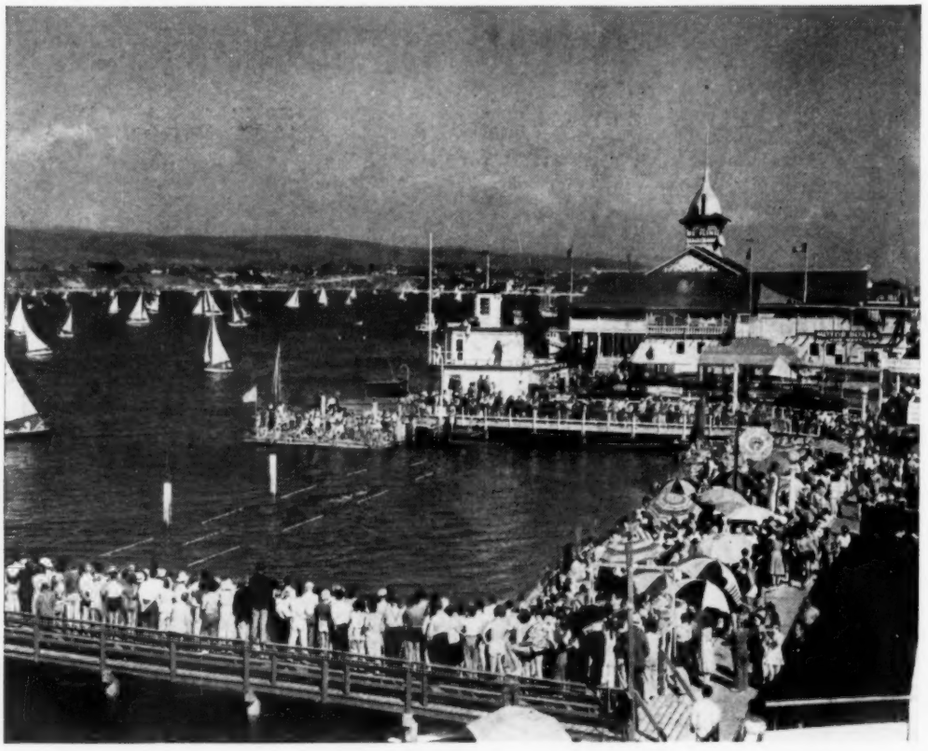
# of the OPEN SEA

By ALBERT SOILAND




soe's adventures with his man Friday. These and many other dreamed-about places draw American youth to the navy and the sea.

Young men are wanted for the United States Navy and for its Merchant Marine and youth, as always, is responding to the call of the open sea. So, when the present navy roster is complete it will be found that the great majority of its young patriotic American volunteers come out of the new West. The American boy of today knows



Swimming races, a feature of the Newport Bay regattas, are a keen point of interest for spectators lining the piers.

more about personal hygiene than boys in any other part of the world, he has learned more about freedom from oppression and about independence and about self respect than his less fortunate kin in foreign countries; hence his natural interest in everything tending to develop a sound mind and a sound body. This young American, born away from the coastline, desires to see and experience the wonderful possibilities which the bays, waterways and open seas of the great United States Empire offer to him. This thought opens a marvelous vista to every ambitious youngster and his urge eventually brings him into contact with his heart's desire. For the first time in his life he sees blue water. He roams around the water front and observes lads of his own age engaged in many activities which seem strange and perhaps unreal: some are in small row boats and canoes, or perhaps navigating an ironing board with bare hands, robed only in a pair of shorts. Then his eyes roam beyond and he notes boats and sails, some with a single bit of canvas on a precarious contraption which may have the appearance of a wash tub or a more ornate affair which has a bow and a stern and perhaps two sails. Farther out are more pretentious vessels with two masts and many sails. The young neophyte gazes in amazement at the flotilla. There is a fresh breeze blowing in one direction, yet these boats are traveling along on every point of the compass, and that staggers the young observer who has no knowledge of seamanship. Right then and there he develops a resolve—he is determined to master all these mysteries with which he has been so suddenly confronted. Here, then, is the beginning of a new, delightful and healthgiving opportunity for this particular youngster and thousands of his kind.

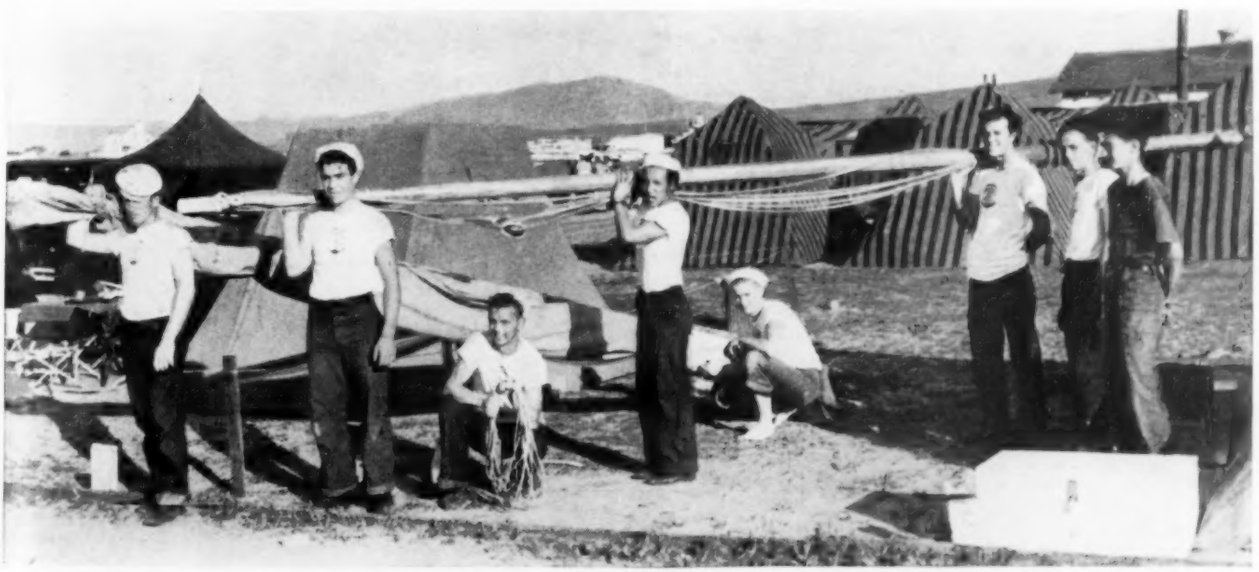
There is and always has been an erroneous impression that a yachtsman must be a person of unlimited wealth. Nothing could be farther from the truth. In reality, a comparative few of the nation's wealthy citizens own and operate luxurious and costly private yachts. The rank and file of yachtsmen are ordinary people. They own, sail and master their individual yachts exactly in proportion to their economic abilities. But, strange as it may sound to the average landlubber, the real sport of yachting is to make the most of the boat or yacht which you possess. Perhaps it may be only a row boat or a small dinghy with a leg of mutton sail, but it is yours to have and to hold, and you can get as much fun and as much good health—perhaps even more—as the possessor of a big seagoing vessel, costing a fortune to operate. When you get into a small sloop, which you may possibly have built your-

From the central portion of the United States come many boys to join the Sea Scouts. Above, two of them signal a "well done" at the day's end.

self, and have learned to breast the elements; when you have learned to feel that irrespective of how hard the wind blows, or how uncertain its direction, or how rough the sea, you can maneuver at will in any direction; when you have mastered the three Ws (wind, weather and water) and can bring your ship safely into port—what a glorious feeling!

The girls, too, share in these water sports and now the older ones have organized themselves into groups of mariners who are vying with the Sea Scouts, an organization of boys nautically inclined.

Just now, there is a call, not only back to the land from crowded cities, but back to the sea. Young America is *(Continued on page 657)*



To the Sixth Annual Rendezvous of the Sea Scouts from the Pacific Southwest came a thousand boys to build their model tent city, ready for both inspection and use within a few hours.

By GEORGE B. ROTH

# DRUGS and the

# PUBLIC

THE GREATEST ASSET any one can possess is health. From time immemorial man has sought to maintain this enviable condition through the use of chemical and physical agents commonly known as drugs or medicines. In the history of drugs, progress has been slow and uneven.

In the early period, when diseases were thought to be due to evil spirits, the function of drugs was to drive devils from the body. There were no ideas of natural laws. The natural was confused with the supernatural and material agents used for the treatment of disease were employed for the magic they possessed.

Following the primitive came the traditional, when for about fifteen centuries authority ruled supreme. During this period the human body was thought to be composed of fire, air, water and earth, possessing the qualities hot, dry, moist and cold, respectively. Health, it was thought, was maintained by keeping these qualities in proper balance.

If disease were due to an excess of heat it was treated with cooling agents, of which vegetables were among the most valuable; the best were cucumbers. It is not improbable that the expression "cool as a cucumber" is a survival of the time when cucumber seeds were used as a medicine.

At the beginning of the sixteenth century tradition was overthrown; experimentation began. As a result, we no longer believe that disease is the result of supernatural forces, because we have discovered through experiments that it can be produced by certain material agents such as germs. However, disease may also be caused, in part, by interfering with any of the normal body processes through unnatural conditions such as "overwork."

***Drugs should be used to assist the body in its fight against disease; not to take the place of Nature, but to cooperate with her by increasing or decreasing the pathologic or normal processes. Drugs, however, never can create new functions nor act magically***

The human body has been likened to a machine. In many respects this is true, but it is unlike a machine in one essential: It cannot be stopped to make necessary repairs; they must be attended to while it is in motion. We attempt to repair it by resting one part that is overworked or damaged and at the same time stimulating another part that is normal in function but capable of doing more work under stress.

The task of the physician consists in trying to remove obstacles from the path of nature. Drugs are used to assist the body in its fight against disease; not to take the place of nature, but to work with her by increasing or decreasing the normal or pathologic processes. Drugs, however, can never create new functions, or act in a magical manner. Potent drugs are like the surgeon's knife: in the hands of the surgeon it will be used skillfully and beneficially, but in the hands of the layman it may cut too deeply and destroy a much needed vital mechanism.

Drugs in use today may be placed in three groups: those prescribed by the physician; those suggested by the physician such as the household remedies; and those which are used on the initiative of a layman, either at the suggestion of another layman who is often a drug clerk, or as the result of the blandishments of patent medicine promoters.

The physician's list consists in great part of drugs found in the United States Pharmacopoeia, the National Formulary, and the New and Non-Official Remedies.

The United States Pharmacopoeia, which for brevity is termed the U. S. P., is a decennial publication, the combined work of representatives from leading medical and pharmaceutic schools, together with certain nonteaching medical groups such as the National Health Institute of the Federal Security Agency. The U. S. P. not only lists the drugs considered to be of established usefulness, but provides purity standards as well.

The National Formulary (N. F.) is also a decennial project, compiled exclusively by pharmacists, which lists and provides specifications for little used drugs which were formerly U. S. P. but for which there is still some demand on the part of the physician.

Moreover, the government has adopted the U. S. P. and N. F. standards in the enforcement of the Food, Drug and Cosmetic Act of

1938. The drugs that are listed in the above standard works are called official drugs.

The New and Non-Official Remedies is a third list for the physician's guidance. It is issued annually by a group of medical experts under the direction of the American Medical Association. It lists and provides standards for the newer drugs of promise that are too new to be included in the above official works, the U. S. P. and N. F. Thus, the drugs which the physician largely selects, possess not only merit but the necessary degree of purity and uniformity.

The third class of drugs—those used on the suggestion of a layman—are commonly termed "patent medicines." It has been estimated that about one billion dollars is spent annually in the United States for drugs, and about 60 per cent of this amount is spent for self-medication in the form of so-called patent medicines.

The expression "patent medicine," when used in its usual sense, is a misnomer since such agents or medicines are not protected by a patent, but by their individual trade names. A real patented medicine is not surrounded by secrecy and mystery. Patent means open to all. To secure a patent, one must disclose the formula and convince government officials that there is something new and meritorious in the medicine.

The so-called patent medicine, or more fittingly termed "proprietary remedy," is one of the thousand devious mixtures of drugs—some of which have been known to physicians for hundreds of years—frequently since discarded by medical science, and now put up in package form under a distinctive trade name, and sold at an exorbitant price for self treatment of self diagnosed diseases. The vast majority could not be patented since there is nothing new or meritorious in them.

What protects a proprietary medicine from free competition is its distinctive trade name, and this can be secured without need of disclosing its composition. Before the enactment of the recent Food, Drug and Cosmetic Act, the composition of such a medicine could be changed from time to time without informing the public, and at the same time no purity requirements were necessary as required for official drugs. Under the present law the formula cannot be changed without changing the name. Moreover, the active ingredients must be disclosed on the label.

The public is now protected to a measurable degree against fraudulent proprietary remedies as the producers are required to publish the formula, the chief commercial asset of the proprietary remedy residing in the mystery surrounding it. When it is known, for example, that a simple combination of salts and soda, which is worth 10 cents, is sold as a panacea for $1.50 a package, the public interest in it is changed and it will buy the product from the grocer as a cathartic and not as a rejuvenator of youth.

The evils incident to the use of drugs by the layman reside not only in the drug itself, but in his use of the drug: the evil of self diagnosis. Suppose a beginning diphtheria is diagnosed as a simple sore throat. The disease progresses, the golden opportunity for effective treatment passes, and death will almost inevitably result even though antitoxin is administered.

The claim has been made that the physician objects to proprietary medicines because it lessens his business. This is false logic, for such medicines do not cure and the victim goes to the physician when it is too late to check the disease. Samuel Hopkins Adams has said, "Our national quality of commercial shrewdness fails us when we go into the market to purchase relief from suffering."

The sale of proprietary remedies is largely perpetuated by the use of testimonials. However, it is usually easy to obtain a testimonial from a layman for a medicine because the relation of cause and effect, when it relates to the cure of disease, is one of the most difficult judgments to make. This is because the layman does not give sufficient importance to the natural capacity of the human body to heal itself. Scientific tests must always be made on a drug before final judgment of its worth can be rendered, and such judgment for almost all proprietary drugs seldom coincides with the testimonials which are published.

The use of proprietary remedies is an evil that can be abated only by such legislation as is contained in the modernized Food, Drug and Cosmetic Act.

Education is not the *sine qua non* for ending this evil, for man is a dupable animal. Quacks in medicine, quacks in religion and quacks in politics know this and act on this knowledge. There is scarcely any one who may not, like a trout, be taken by tickling. Quackery cannot be repressed by any absurdity of theory or set of theories. Its roots lie in the defects of the human mind. Like other forms of antisocial conduct, it can only be held in check by governmental supervision.

# HEALTH MUSEUMS

By THOMAS G. HULL

THE TERM MUSEUM means a place of study and learning (from the Temple of the Muses, a place of study). The modern museum, whatever may be its nature, carries out that function, often providing for classes of instruction or carrying on extensive research and investigation.

In the United States there are about fifteen hundred museums, large and small, half of which are public. The rest are privately owned, or belong to universities, colleges and schools. Among the public museums, historical museums are the most numerous, with art museums second. There are a miscellaneous number of others, including the strictly medical museum for the medical student, or the dental museum for the dental student. Close to the bottom of the list is the health museum, intended for the public—for fathers and mothers and sons and daughters.

The idea of the health museum is not new. It has been used with variations by charlatans and quacks for centuries. It has been used from time to time by reputable agencies for many years. In the last decade, however, there has been a surge of interest in health museums that parallels closely the increased activities in health education by other means. Besides specific health museums, there must be included other museums which have splendid health exhibits.

### The Army Medical Museum

The foremost health museum in the United States was not originally intended for that purpose, nor is it now its main object. The Army Medical Museum, Washington, D. C., was founded in 1862 as a museum for the study of war wounds. It started with some seven thousand specimens gathered on the battlefields of the Civil War and has been enlarged to the greatest collection of the kind in the world, ranging from wounds caused by Indian arrows and tomahawks to high explosive shells and war gasses. The museum, likewise, has broadened in scope until it covers the whole range of medicine and the medical sciences. The museum staff cooperates with numerous other scientific organizations, and is engaged in various medical investigations. There are over a hundred and fifty thousand specimens, sixty thousand photographs and a quarter of a million microscopic slides available for study, only a small part of which are seen by the hundred thousand people who annually visit the museum.

### Museums of Natural History

Most museums of natural history contain a wealth of material dealing wtih subjects from which man may learn about himself and the betterment of his environment. There are exhibits on comparative anatomy, on insects and their control and similar subjects, but without special emphasis on medicine or public health. Some of these museums, however, have presented creditable displays illustrating man's relation to his environment and how he has modified it with a view to making life safer and more healthful.

The American Museum of Natural History, New York, in 1912 instituted a "Hall of Public Health" where many exhibits were shown on sanitation and disease prevention. In this connection the museum maintained a collection of all known kinds of bacteria, a so-called "garden of germs," from which living cultures were sent upon request to medical schools and research institutions. Long since, however, the collection of bacteria was transferred to another institution but the exhibits are still on view, combined with other material of more recent origin.

The United States National Museum, Washington, D. C., devotes a considerable amount of space to the subject of medicine and public health. The extensive material on the history of medicine contains many interesting and valuable documents. It is unfortunate, however, that the works of Crawford W. Long are included in an alcove surrounded with cases devoted to homeopathy, osteopathy and eclec-

tic medicine. Dr. Long's whole life was a refutation of the partial truths for which these "isms" have stood—"isms" that are fading away in the light of scientific research. Except from the historical point of view their inclusion is in doubtful taste in an up-to-date exhibit.

The National Museum is the recipient of material from various health organizations and the visitors will find much of interest dealing with sanitation, hygiene, communicable disease control and similar subjects.

### *Science Museums*

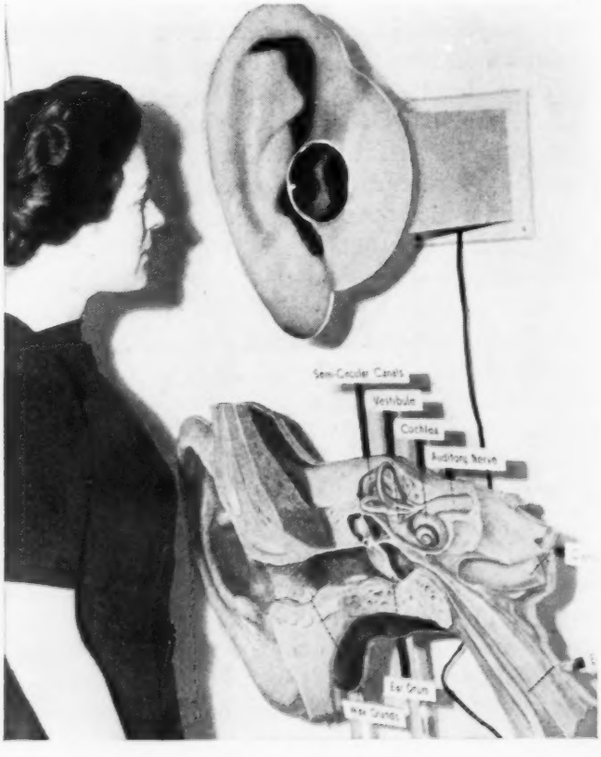
The science museum finds itself better adapted to the display of health exhibits than does the natural history museum. Although health is an abstract subject and cannot be shown as such, the various factors, which contribute to health and the sciences on which those factors rest, are easily displayed.

In Philadelphia, the beginnings of a health exhibit have been started at the Franklin Institute. The intention is to show the contributions of chemistry, physics and mechanics to the advancement of medicine and dentistry. The appropriateness of such a display is emphasized by the fact that Benjamin Franklin himself made a considerable number of contributions to medicine.

The Buffalo Museum of Science benefited from the Century of Progress Exposition in Chicago, obtaining from there most of the health exhibits that are shown in its Hall of Man. Dominating the group is the Transparent Man, surrounded by various exhibits showing how the human body is constructed and what makes it "tick." The director of the Museum is himself a physician, deeply interested in this department.

The Toledo Science Museum has included among its other displays an interesting group of health exhibits, in collaboration with the Toledo Academy of Medicine. Records show that these exhibits have attracted five times as many visitors as any other exhibits in the museum.

The Chicago Museum of Science and Industry is the beneficiary of two world's fairs. The home of the institution is in the Fine Arts Building from the Columbian Exposition of 1893 and many of the exhibits originated at the Century of Progress Exposition in 1933. The exhibits on medicine and public health form one department among the several on science and industry. They occupy 35,000 square feet of floor space, forming one of the largest groups of health exhibits in the country. Appropriately enough, the dominating figure




A sectional display of the interior ear.

The education for future men of science.

in the balcony over the main entrance is the Transparent Woman, she who created so much interest at the New York Museum of Science and Industry and elsewhere. Her wanderings are now ended and she has come home to Chicago to stay. Other exhibits include not only the basic sciences in medicine, such as anatomy and physiology but such other subjects as maternal hygiene, nutrition and surgery. The allied professions of pharmacy and dentistry are represented by excellent group exhibits portraying their benefits to mankind.

New York's Museum of Science and Industry at Radio City has attracted many millions of visitors. The floor area is not large, requiring utilization of every available space for exhibits. However, the location of the museum is such that it is easily accessible to the numerous visitors who readily pay the small admission fee. The health exhibits are largely of the visitor-participation type, many of them coming from Germany.

### Clinic and Hospital Museums

Clinic and hospital health museums are unique in several ways. They are the recipients of the advice and experience of large groups of physicians, together with all the resources to be found in such institutions; they usually have well trained medical artists, model makers and technicians working under stimulating influences, and finally they have a class of visitors most of whom come to learn about one particular human ailment, but remain to study the rest of the exhibits.

Mechanical reproductions of human joints.

The Mayo Foundation Museum of Hygiene and Medicine, Rochester, Minn., was opened to the public in 1935, an outgrowth of the medical exhibits shown at the Century of Progress Exposition in Chicago. The museum, housed in a building of its own, is divided into two parts—one for the public and the other for physicians. The exhibits deal mainly with the various human diseases, together with their prevention and cure. There are many thousands of visitors annually.

The Tower of Health at Madison, Wis., was dedicated in 1939 by the Jackson Clinic. Its name comes from its location on the seventh floor of the hospital building. It deals with the prevention and relief of the various human ailments, such as diseases of the thyroid gland, stomach, heart, lungs, liver, appendix, the urinary tract and the like.

The museum at The Cleveland Clinic, Cleveland, Ohio, is the result of the interest exhibited by Dr. George W. Crile in the comparative anatomy of wild and domestic animals and the lessons which man can learn from them. The exhibits are now being installed in new quarters and will form a valuable adjunct to the numerous health education projects of that city.

There are many other museums not open to the public such as the Memorial Hospital in New York and those at medical and dental schools maintained for teaching purposes. Information concerning them may be found in the Bulletin of the International Association of Medical Museums.

### Cleveland Health Museum

The Cleveland Health Museum opened its doors in 1940 with an outstanding display of exhibits. The Cleveland Academy of Medicine, together with other groups, had already tested the interest of the public with health exhibits at the Great Lakes Exposition in Cleveland in 1936, and at the close of the fair the museum was incorporated.

The museum is directed by a physician experienced in exhibit work and a staff of assistants is being developed whereby all exhibits can be made within the institution. The exhibits are shown *(Continued on page 668)*

# MUSSEL POISONING

By HERMANN SOMMER and K. F. MEYER

***The dangerous nature of this poison—one of the most potent known—and the high mortality rate make it a serious public health problem in some regions***

THE PARALYTIC FORM of shellfish poisoning is a severe form of food intoxication caused by eating mussels or clams at certain times of the year. Most of the cases of mussel poisoning have occurred along the Pacific Coast, and the following conclusions are based on studies made in this area. However, outbreaks of this type of poisoning in Nova Scotia, Canada and near Bruges, Belgium, in recent years suggest that these observations are of more than local significance.

The original source of the poison is found in a unicellular microscopic organism of the ocean, the dinoflagellate Gonyaulax catenella. It is a free swimming organism, multiplying by formation of chains of 2, 4 or even 8 individuals, of dark orange or greenish brown color, and living, like a true plant cell, by photosynthesis. Like all plankton organisms, it is most abundant in the summer; at times it may multiply to as large a number as 40 million per liter. At such times the water may, for miles, present a deep rust red color, the so-called "red water," in day time and a beautiful luminescent spectacle at night. Needless to say, other dinoflagellates or diatoms may present similar pure culture developments in the ocean without being poisonous. Gonyaulax catenella may vary considerably in its poison content; even a small number which is not visible as red water may be sufficient to cause dangerous conditions in shellfish. It occurs in the open Pacific Ocean, less in inclosed bays and estuaries, from Alaska to Southern California. It has been tentatively identified in the North Atlantic Ocean (Nova Scotia and Belgium). The strong radiation of the sun together with the cold nutrient waters due to the upwellings along the Pacific Coast in summer time seem to be the ideal conditions for the growth of this dinoflagellate.

The poison contained in this organism is one of the strongest known. It belongs to the

class of alkaloids, such as strychnine, muscarine and aconitine. It is heat-stable in acid or neutral solutions, but is gradually destroyed by boiling with alkali. It is readily soluble in water and alcohol, insoluble in ether or chloroform. About one millionth of a gram is sufficient to kill a mouse on injection; the fatal dose by mouth for a man is probably a few milligrams. The toxic principle has not been isolated in a crystalline state but has been purified to a high degree in the form of its hydrochloride.

The plankton serves as food for many animals of the seashore, including the bivalves. After the mussels ingest the plankton the Gonyaulax poison is stored in their digestive glands. The poison is not harmful to the mussels, but the resulting toxicity is proportional to the number of Gonyaulax ingested and to their alkaloid content. If a large number of Gonyaulax is present in the water, the toxicity of the mussels may rise to dangerous levels within a few days. In the absence of the organisms, the stored poison is slowly excreted by the mussels in the course of several weeks. The muscular tissue (white meat) of the shellfish does not contain much poison; practically all of it is concentrated in the digestive gland (the dark central portion of the mussel).

All plankton feeders may at times become poisonous. The ones which reach dangerous levels of toxicity and may therefore become a public health problem are mussels and clams. Ocean mussels (Mytilus californianus) have caused most of the cases. The large varieties of clams which live near the open Pacific Coast, the Washington and the Pismo clams, are also responsible for several fatalities. The other varieties of clams and the Pacific oyster have never caused any cases, although the poison has been demonstrated in most of them. Only shellfish whose habitat is far from the open ocean, such as soft-shell clams, native oysters and scallops, are entirely free of poison. Abalones, as well as crabs, do not feed on plankton, nor are their viscera consumed; for both these reasons there is no danger of shellfish poisoning from these sea foods.

Shellfish poisoning is by no means of recent

origin. It has been known and recognized in Europe for over one hundred years. The first outbreak recorded from the Pacific Coast in white people took place in the exploring party of Captain Vancouver in 1793, on the island which now bears his name. Since 1927 the records for the Pacific Coast show 346 cases of mussel and clam poisonings, with 24 deaths. Most of these occurred along the central California Coast, with a sprinkling of severe outbreaks from Juneau, Alaska, to Southern California and the Gulf of California, Mexico. All cases occurred between the 15th of May and the 15th of October. In July 1936, an outbreak of poisonings with 2 deaths was caused by mussels obtained from the Bay of Fundy, Nova Scotia.

Although a large amount of shellfish is consumed, even during the summer, the incidence of paralytic shellfish poisoning is exceedingly small; but the dangerous nature of the poison and the high mortality make it a serious public health problem.

The symptoms of mussel poisoning in man or animal are entirely of nervous origin and may begin immediately after the meal. A prickly feeling in the lips, the tongue and the finger tips, followed by numbness are the first signs of intoxication. An ataxic gait and muscular incoordination, and finally ascending paralysis mark the progress of the intoxication, with death from respiratory failure in from 2 to 12 hours after consumption of the toxic shellfish. Symptoms of the alimentary canal are rare, with exception of vomiting which may occur in severe cases. Small amounts of poison, which are commonly ingested during times of low toxicity, apparently have no effect on the human body. The substance seems to be readily excreted.

The diagnosis of the paralytic form of shellfish poisoning is, therefore, not difficult, particularly if the history is known. Suspected shellfish material or stomach contents should be sent, in alcohol, through the local health department, or directly to Hooper Foundation, San Francisco, for confirmatory tests. There is no simple visual test by which toxic shellfish may be distinguished from harmless ones. Inoculation of extracts into mice is the most reliable testing method. Another simple and dependable test consists of feeding shellfish viscera to kittens. If the kittens do not die within a few hours, provided they retain the food, the shellfish can be eliminated as the cause of poisoning in humans.

No specific treatment or antidote for mussel poisoning is known. Therapy can be only symptomatic and should follow the course of treatments in other alkaloid poisonings. Experience during the 1939 outbreak has shown that provocation of active vomiting by apomorphine is more effective in removing pieces of shellfish from the stomach than lavage. Mussel poison is strongly adsorbed on charcoal, Lloyd's reagent and similar adsorbents. Alkaline fluids are indicated considering the instability of the poison in that medium. In severe cases artificial respiration should be resorted to.

The prevention of shellfish poisoning should be educational and legislative. The plain fact that the viscera of any bivalves during summer time may be a potential source of poison should be readily understood. Therefore a safe rule is: Do not eat the viscera (dark meat), or drink the juice from mussels, clams or similar shellfish from the open Pacific Coast between the 1st of May and the 1st of November. The white meat must be thoroughly washed before cooking. The addition of baking soda in cooking shellfish, which has been advocated, helps to reduce the toxicity but is no safeguard against poisoning if highly toxic whole shellfish are prepared.

For the past twelve years, the Health Department of the State of California has taken measures to prevent the occurrence of shellfish poisoning. Since mussels are the most common source of the poison, they are put under quarantine from June 1st to October 1st, and at such other times as laboratory tests show them to be dangerous. Clams of a certain locality are quarantined only when findings in the field or in the laboratory have demonstrated highly toxic mussels nearby. It has never been found necessary to quarantine bay mussels (Mytilus edulis), mud clams or oysters.

During the poison season of 1939 it was proved beyond doubt that warning signs posted along the beaches and across the highways at county lines have a decided effect in reducing the number of cases of poisoning. The same applies to publicity in the local press and through radio stations along the coast. The health officer or local physician has an excellent opportunity to dispel in the minds of the people the many erroneous notions concerning the cause of mussel poisoning: (1) The paralytic shellfish poison is no postmortem product. (2) Tempo- *(Continued on page 655)*

# DRAFTS—now and then

***Is it so strange that imperfect children have not developed into adults universally fit for the strenuous task of war?***

**By JAMES F. ROGERS**

THE SELECTION of eligible human material for purposes of war by conscription dates back only a century and a half. Before that time, sufficient combatants for the settling of international quarrels were forthcoming by less drastic measures. At the time of the Revolution, "the royal standing army of France was swept away" and there arose a dire need for national defense on a large scale, for domestic discords had brought the neighbors storming at the doors. Not every citizen was ready and willing to defend the principles of liberty, equality and fraternity, and in 1792 it was decreed that every able-bodied man was to be considered liable for active service for his country. The plan proved too inclusive and unworkable, however, and in the following year this liability was limited to men of 18 to 25. Under Napoleon, by this scheme, France became a "vast manufactory of cannon fodder."

But all draftees were not then, nor more recently, good material for military purposes. Nations always become concerned over the physique and fitness of their citizens in times of trouble. It does not seem to occur to them that health and a reasonable amount of vigor are as important for purposes of peace. During a war they think of readiness for the next war. The elaborate "systems" of gymnastics developed in Germany and Sweden over a century ago and imported for use in our own schools were worked out with war in mind. It was immediately following the Civil War that California passed the first law requiring instruction by schools in the laws of health and the promotion of physical exercises "conducive to health and vigor of body." Following the Boer War, the British searched for a system of physical training that would produce a better national physique.

Since the World War, there has been in our own country, frequent mention of the "defects of the draft," and there were those who were "shocked" at the extensive assortment of untoward physical conditions listed by the medical examiners. We are all impressed by large figures and here were figures on a grand scale, for they were derived from the examination of millions of men. However, these same millions had been drafted only a few years before for compulsory attendance in public schools. They had been examined by school physicians and had been found about as defective as they turned out to be later. Yet the public was not shocked over the results of those examinations. In other words, what was "revealed" in 1917 was already known in 1907. Parents were, of course, informed of poor vision, impaired hearing, decayed teeth, etc., of their children, but at best, most of these conditions could only be treated or compensated and not removed. Of all these faults, the most common was decaying teeth. Since, in a large proportion of people, nothing was done to stop the decay, it is obvious that, by military age, a considerable percentage would be so wanting in natural teeth that they could not fulfill Uncle Sam's military requirement of "three serviceable natural masticating teeth above and three below opposing." So it turned out.

In 1907 two thirds of each million of the future draftees of 1917 were considered defective in one or more respects. As adults, 50 per cent of each million still presented to the army surgeon defects "worth recording." However, only about a fifth (12 per cent to 42 per cent

by states) were considered unfit for any sort of soldiering and about three out of ten (again, varying greatly by states from 18 to 58 per cent) were not acceptable for general military service.

Was it so strange that imperfect children had not developed into adults universally fit for the strenuous business of war? There was also much talk about how human health and physique were undergoing degeneration. Nothing was farther from the fact.

Every one is familiar with the military pose which follows the command "Attention!" Its description begins with "Heels together!" In a manual of military drill, published in Philadelphia in 1809, this standing position was described as one in which the heels should be on the same line but "more or less distant from each other" for the reason that "the men with crooked legs cannot bring their heels together." Now crooked legs are a sign of severe rickets and deforming rickets was so common that allowance had to be made for it in the military stance, something which would not enter into the head of the tactician of today. Neither bow legs, knock knees, nor crooked legs were listed among the defects of draftees for the World War.

But rickets is a rough indicator of defectiveness in general, for we can hardly expect one set of bodily structures to turn out badly and others not share in that ill fortune. There was no meticulous medical examination in those days but a high percentage, indeed, must have been unfit for purposes of war according to present demands.

A century ago in France, even after smallpox, typhus, cholera and other contagious diseases so rampant in that day had taken their toll of the less robust and resistant, and despite requirements which must have been anything but exacting, 50 per cent of men 20 years of age (30 to 60 per cent according to departments) were rejected as too "infirm or deformed" for military service. "We should blush," says a writer of that day, "for the state of our agriculture if we could only rear for its operations so small a proportion of oxen and horses able to work, compared with so large a number of weak and misshapen animals." We do not speak of rejected men today as either weak or misshapen but it is evident that the latter term would have been appropriate in describing a large proportion of our young men at the beginning of the Nineteenth Century.

There is other indirect evidence besides comparatively straight legs that young men of 1941 are more perfect than were those of 1841, or of 1918. They are, on the average, much taller and heavier. These qualities are of no particular advantage in themselves but studies by the United States Public Health Service indicate generally that the taller and heavier boy or girl is less frequently plagued by physical faults. Also, the still too "common communicable diseases" which have crippled so many millions for life in eye, ear, heart or other organs were less common and less severe in the childhood of the present group of conscripts than in any previous period.

The improvement in human physique which has been going forward in the past generation and long before is due to better living conditions and to better health protection and care in the home, school and community.

Better nutrition stands at the head of these human influences. We do not grow admirable animals from foods which are deficient in essentials for the growth and development of such animals. We could as well think of constructing a good specimen of one of those comparatively simple machines called an airplane if the needed materials are not available. Nature looks out for this in bringing up her beautiful brood, for even defective teeth are rare in wild animals. We may thank the refrigerator, modern transportation facilities and plethoric pocketbooks for food supplies which are more varied and complete throughout all seasons than formerly. Even so, old customs are slowly outgrown and valuable and available fare is often crowded from the menus planned through family tradition.

Fifty years ago the children attending private schools excelled their public school fellows in height and weight. Public school pupils of 1941 have now caught up with their rivals of 1890 but the present day relationships still hold, for the pupils of private schools today are still relatively larger and the difference now, as then, is due not to the schools they attend but to the difference in care and feeding in the families from which the children come. Even at 5 years of age, children from the better homes average an inch and a half in height and two pounds in weight more than those from the poorer homes.

There is much we do not yet know about the building of the human mechanism, and we too often have the impetus of faulty heredity to contend with. What may happen, however, in a few years of early life was recently exhibited glaringly by observations and records of two groups of young children who had been exposed from birth and before to what were considered "satisfactory" or "unsatisfactory" diets by their examiners. Serious faults of bone, of eyes, of nose, of throat and, of course, of blood, were twice as frequent among the latter as among the former children. In other words, there were twice as many rejections from the draft for unhampered living in the one group as in the other.

Two African tribes, the Kikuyus and Masais, eat extremely different diets. Orr and Gilks found that decayed teeth, deformities, anemia and other conditions are four times as frequent among the more badly fed and that they are inferior in exhibitions of strength. A draft was made for purposes of a carrier corps for a British expedition. Of the 16,754 members of the Kikuyu tribe who responded, 10,912 were immediately rejected as unsuitable for the purpose; after a march of 100 miles, 17 per cent more were found to be physically unfit—over 77 per cent in all. Among 14,441 of these people employed in building a railroad, the death rate was 35.4 per 1,000. With an improved diet, this rate fell to 10.8 in the following year.

Of the many tribes of India, the Sikhs and Pathans exhibit the "highest degree of physical efficiency among any of the races of mankind," but there are many Indians that have anything but fine physiques. They all reflect their tribal habits. That this relationship is no happen-so has been demonstrated by McCarrison with the help of our disreputable relative, the rat. Rats drafted for the service of science were fed on a Sikh menu of whole wheat cakes with butter; uncooked cabbage, potato and carrot; fresh fruit; sprouted peas; *(Continued on page 666)*

# Prehabilitation of Registrants: I

MAKING YOURSELF fit for service is probably a very simple procedure. At most it involves only three steps: (1) Learn the minimum requirements of the Selective Service Regulations. (2) Consult your family doctor or dentist, one or both, if you discover or suspect that you fall short of what is demanded of you. (3) Follow their advice if arrangements can be made on a basis mutually satisfactory; if not, let them direct you to the nearest clinic, hospital, or social service agency best suited to your particular needs.

Here is relative proportion of defects that have been the principal cause of rejections at the local Selective Service boards and at the Army induction stations:

| Defect | Percentage of Total Rejections | |
|---|---|---|
| | Selective Service | Army |
| Teeth | 18.55 | 19.32 |
| Eyes | 10.56 | 13.25 |
| Cardiovascular system | 10.06 | 6.18 |
| Musculo-skeletal defects | 8.36 | 4.90 |
| Mental and nervous | 6.24 | 10.48 |
| Ears | 4.45 | 9.52 |
| Hernia | 4.20 | 5.28 |
| Lungs | 3.86 | 5.00 |
| Venereal | 3.49 | 4.44 |
| Feet | 3.07 | 3.64 |

Many of these rejections could have been avoided by wise forethought and intelligent action. By rendering yourself fit for service you are preparing yourself to meet the requirements of the examinations. The requirements are listed below, together with the advice considered desirable.

### TEETH

REQUIREMENTS: An adequate number of serviceable teeth—6 biting and 6 chewing teeth, three pairs of each that are opposite each other when chewing. Fillings, crowns, dummies and fixed and removable bridges may make a tooth acceptable.

ADVICE: See your dentist, have cavities filled and proper replacements made; have teeth cleaned and clear up oral infection.

### HEART AND CIRCULATION

REQUIREMENTS: The heart is considered acceptable if normal in size, position, shape, rate, rhythm and sound, and if free from murmurs and trills which indicate disease of the valves. The blood vessels are considered normal if the walls are not thickened and if the pulse is of moderate rate, constant rhythm and the blood pressure is not increased above normal.

ADVICE: See your doctor if (1) moderate exercise causes undue shortness of breath, palpitation, racing, pounding, or distress about the heart; (2) your heart skips beats or is irregular; (3) your pulse is too fast, above 90, or too slow, below 60; (4) you have had rheumatism or syphilis; (5) you have varicose veins or evidences of disease or pain in the blood vessels of the arms or legs associated with changes in color. Have your blood pressure taken two or three times so as to exclude at examination functional factors due to excitement or exertion.

### MUSCULO-SKELETAL DEFECTS

REQUIREMENTS: The body should be of normal size, shape, and well-proportioned. The arms and legs should be equal in length, posture should be erect, the gait unrestricted and the stride normal. There should be nothing abnormal about the head, trunk or extremities.

ADVICE: See your doctor (1) about defects of the framework, deformities of the bones or joints, faulty posture or gait, drooping shoulders, curvature of the spine, slight shortening of an extremity, old fractures, prominent shoulder blades, deformity of feet—bunions or hammer toes; (2) if you limp or sway in walking, or suffer from pains or aches in your joints, muscles or nervous system; (3) if you have suffered in the past from serious diseases of the bones—such as tuberculosis, discharging sinuses or other infections.

### EYES

REQUIREMENTS: The vision should be moderately good in both eyes, or capable of being rendered so by glasses. Test cards are read at 20 feet. The army requires each registrant to see at 20 feet what the normal person sees at 100 feet

without glasses, if by use of glasses he can see what the normal person sees at 40 feet. Mild degrees of inflammation, squint, color blindness and small operative scars do not necessarily disqualify. You can test yourself with some accuracy by determining if you can read in a good light block letters 1¾ inches in size at a distance of 20 feet without glasses, and letters of about ¾ inches in size with glasses.

ADVICE: See your doctor if (1) you have poor vision, (2) you are near or far sighted, (3) you need or wear glasses, (4) you have a squint, unsteady or pop eyes, (5) you have inflammation or deformity of the eyes, lids, or drop lids, or (6) if your eyes tire unduly, water too much or burn, and suffer from headaches after excessive reading or movies. A pair of glasses and treatment of minor ailments now may save you a world of trouble at a later date and may prevent rejection by the army.

### GENITO-URINARY ORGANS

REQUIREMENTS: The kidneys, bladder and genital organs must be free of serious disease and the urine free of albumen and sugar. Acute gonorrhea and early syphilis are so readily cured that they will not constitute a basis for permanent rejection.

ADVICE: See your doctor if you have any form of venereal disease, suffer from bed wetting, have any swelling of the testes or scrotum or any other genital trouble.

### MENTAL AND NERVOUS SYSTEM

REQUIREMENTS: Registrants are acceptable who appear to have normal understanding, whose speech can be understood, who have no definite signs of organic disease of the brain, spinal cord or body nerves, who are bright mentally and are capable of reading and writing equivalent to the requirements of fourth grade grammar school.

ADVICE: See your doctor if (1) you have any speech defects or muscular tremors, (2) you have personality problems, abnormal fears or behavior defects, (3) if you have had mental disease of any kind in the past, or (4) you have any bad habits or definite vice.

### EARS

REQUIREMENTS: Hearing should be good in both ears, capable of detecting low conversational voice sounds at 20 feet in a quiet room. Hearing is considered acceptable if such sounds can be heard at 10 feet.

ADVICE: See your doctor if hearing is poor in either ear, if the ear discharges pus or if the ear drum has been broken.

### NOSE AND THROAT

REQUIREMENTS: The breathing space must be adequate, the voice normal and the nasal passages clear.

ADVICE: See your doctor if (1) your tonsils are excessively large, chronically diseased, or if you are subject to frequent attacks of tonsillitis; (2) you have difficulty breathing through your nose; (3) you have adenoids, enlarged glands in the neck, mild cleft or perforated palate; or if (4) you lose your voice or suffer from hoarseness or from hay fever. Simple procedures may affect a cure and materially benefit health. Frequently, curtailment in smoking will bring about marked improvement in the respiratory system.

### HERNIA

REQUIREMENTS: Ruptured individuals are not acceptable. Ruptures occur most frequently in the lower part of the abdomen and in the groin. Sometimes these ruptures occur at the navel and in other areas in the abdomen, but especially in the scars of abdominal wounds. Ruptures express themselves by localized bulging at those areas which are greater on coughing.

ADVICE: See your doctor and get his advice. He may refer you to a surgeon. Most ruptures can be operated on with great success and with little danger. Sometimes it is difficult to say whether or not a bulging is really a hernia, but in this matter take the surgeon's decision and act accordingly.

### FEET

REQUIREMENTS: What is needed is a foot that is functionally satisfactory since they bear the weight of the body on long marches and particularly marches accompanied by the carrying of considerable weight in the form of equipment.

ADVICE: See your doctor if your feet give you trouble in walking, let him determine whether or not corrective measures are needed. Flat feet are common, but some people with flat feet have no difficulty in using them satisfactorily.

### LUNGS AND CHEST

REQUIREMENTS: The lungs, respiratory system and chest must be approximately normal. The chest circumference must be at least 28¾ inches and the respiratory expansion at least 2½ inches. Acute bronchitis, small, old, healed tuberculous lesions and healed rib fractures do not disqualify. One must be entirely free from coughs, expectoration or signs of asthma. Chest wall should be strong, well formed with good expansion.

ADVICE: See your doctor if you suffer from chronic coughs and infection, spit blood, are too thin, have afternoon fever or night sweats. Coughs and colds may be readily cleared up. X-rays of the chest are often of the greatest help to the doctor in assisting him to come to a definite conclusion as to the seriousness of the trouble.

### HEIGHT AND WEIGHT

REQUIREMENTS: Examining physicians will use discretion and judgment in accepting registrants with slight variations in ratio of height and weight as indicated in the table, provided it is the opinion of the examining physician that the variation is correctable with proper food and physical training; but no registrant may be accepted whose weight is less than 105 pounds, whose height is less than 60 inches or greater than 78 inches.

ADVICE: See your doctor if too thin or too fat; such conditions are readily correctable by appropriate attention to diet, exercise and rest. The majority of registrants can bring themselves within the acceptable weight limits without much difficulty.

These few simple statements may help you to render yourself fit for examination and service. But whether or not you are accepted, the advice given—if followed—will help to restore you to a normal and markedly improved state of health.

Next month: Rid Yourself of Minor Defects will be presented as part two of the suggested prehabilitation program.

# On the HOME FRONT

***For more than a million women and girls, the American Red Cross has been a teacher in healthful family and community living***

**By LEWIS H. BOWEN**

Aware that home nursing knowledge may be valuable, men, too, are eagerly studying Red Cross courses.

AMONG AERICA'S most important defensive weapons in any future war will be an army of citizens proficient in the art of home nursing. Unprepared in this respect in 1917, the United States through the Red Cross and several public agencies today is teaching thousands of mothers and daughters how to take care of the sick at home and thus assist doctors and nurses in wartime or disaster emergencies.

To more than a million women and girls since 1914 the American Red Cross has been a teacher in healthful family and community living. It has trained that many in fundamentals of healthy home life and the prevention of disease. Through those 27 years it steadily pursued this task without fanfare, filling what it found to be a great need during peacetime.

Today the Red Cross experiences a rush of applicants for this teaching. Eagerly aware that home nursing knowledge may stand them in good stead later on, women and girls of all ages—and many men, too—are flocking to Red Cross chapters in all parts of the country to sign up for the course. Factory workers, housewives, girl scouts, college co-eds, church guild members, club women, 4H Club boys and girls are enrolling—and even a volunteer fire department.

In 1940 more than 63,000 persons received certificates signifying that they had passed the Red Cross Home Nursing course, formerly known as Home Hygiene and Care of the Sick. This represented a new peacetime record and a 6 per cent increase over 1939.

The spectacular spurt came in the final six months of the year, however, when the number of certificates issued jumped 40 per cent above the previous year. An even greater advance took place in the number of enrolled students. The trend continues in 1941.

The same trend is noticeable in all other Red Cross classes which try to prepare persons to take care of themselves and others in emergencies. This is especially true of classes in first aid and life saving. Red Cross officials attribute the sudden flare-up in interest to war headlines and a sincere desire on the part of thousands to prepare themselves for useful service in an emergency.

All this is a matter of history doubling back on its tracks again. The anxious days of the influenza epidemic in 1918 resulted in almost pathetic last-minute efforts by women to learn how to cope with the grim specter covering the entire world.

The classes grew with incredible swiftness between 1917 and 1922. The make-up of the student roster altered considerably also. The

American Red Cross

The Red Cross home nursing course also offers instruction designed to provide for the patient's comfort, including changing beds, giving baths and other routine procedures.

actual war years brought out many women who had visions of war nursing. Subsequent years saw the classes widen to include factory workers, slum area children and rural citizenry.

For the first two years of the program combined—1914 and 1915—certificates issued totaled only 500. This jumped to 4,000 in the following year and leaped to 31,000 in 1917. The all-time high came in 1920 with 90,000 women completing the course, while 27,000 others enrolled in the course but did not finish.

Says the "History of American Red Cross Nursing": "That the enthusiasm in this phase of health education should have reached its height at this particular period was a natural result of the alarm created by the influenza epidemics of the two preceding years. Never had the necessity for preparedness by every woman against the onslaught of disease been more graphically and tragically emphasized."

Now the same "necessity for preparedness" faces the Red Cross again. Fortunately, this time it is not the only agency working in the field of instruction as it was in 1917. Special activities of the Works Projects Administration, the United States Office of Education and the National Youth Administration cover somewhat the same field. A recent meeting of representatives from these agencies in Washington set the stage for a nationwide program for improving the health precautions taken in American homes.

With so many agencies working in the field, there is ample opportunity for overlapping. But such is not the case, because the spheres in which they work have been defined clearly. The Red Cross, for instance, works with the homemakers of the nation; the Office of Education solely with the girls in the high schools; and NYA and WPA with the persons in their employ. Thus, it is believed that every woman and man in the country is given a chance to learn home nursing, if they desire to do so.

As in all phases of national well being, preparedness in this case is more than half the battle. The more persons who receive this type of training now, the better able the nation will be to cope with situations as they arise. It will be far wiser and far more economic to commence now to teach thousands of women how to protect the health of their families than to wait until epidemics are rampant. All the agencies in the field are united in feeling that the program of education must be extended immediately and kept at a rising tempo so that when the full blast of emergency strikes America will be prepared.

The programs of all four agencies have two general objectives in common. First

and uppermost is the aim to prevent disease by individual community and neighborhood effort. Second, is a frontal attack on superstitions and on the paralyzing fear of blood and germs on the part of the ignorant and untrained.

Both of these objectives, it is felt, may be reached by training in every community a strong nucleus of competent and resourceful family people. This segment of the population will be of valuable assistance not only in taking care of the sick in their homes and in fostering positive health measures but also in preventing panic from seizing their neighbors. In both cases they will be materially assisting the medical and nursing profession, and helping to lighten the burden of overtaxed hospitals.

Historically, the Red Cross home nursing course is the most important and, according to latest counts, the largest. It is built around a textbook of which Jane A. Delano, founder of the Red Cross Nursing Service, was joint author. Now undergoing its fifth revision, the book costs 75 cents and is the only expense incumbent on the student.

For adults the course takes six weeks, covering 24 hours of class instruction, of which 70 per cent consists of practice work in which use is made only of such furniture and instruments as the normal family would be expected to own.

The course gives practical instruction and is based on normal everyday living. The logical approach through the study of health problems of the person leads to observation of health influences in the home. Cleanliness, sanitation, care of the kitchen, bedroom and bathroom and making of beds are stressed at this point.

On this information and practice is built the presentation of subjects such as care of the baby, children and the aged. Simple measures in home care of the sick are also taught and practiced sufficiently to enable the student to use them at home with both safety and benefit to ill members of the family.

Never under any circumstances is the knowledge thus imparted intended to eliminate the need of professional medical or nursing assistance. In fact, every class receives ample warnings against self diagnosis and self medication in case of illness. The point receives constant reiteration that if there is any reason to suspect disease a physician should be consulted without delay.

So far as community health is concerned, the classes are encouraged to take at least one problem for study and solution. Cases on record show that as a result of the activity of a Red Cross home nursing class, a modern water system has replaced an old town pump, whole communities have been inoculated against diphtheria and smallpox, bovine tuberculosis has been wiped out from nearby rural areas and sanitary food handling methods have been instituted. These "clean-up" jobs benefited every citizen of the community, no matter whether or not they had ever heard of the class.

The Red Cross does not offer this course to prepare women for service outside their homes nor does it expect to regiment them and call them into action for emergency service. That is, the Red Cross does not wish to train so-called "practical nurses" or professional housekeeping aides, although recognizing that a serious need for such trained persons does exist.

The Red Cross—a voluntary agency—emphasizes the truism in this case that health, like charity, begins at home. Every woman is of greater value to her country and better prepared to meet emergencies for having had the Red Cross home nursing instruction. She learns to protect herself, her home and her neighbor's home against the ravages of disease and disorganization.

To instruct the thousands of students in this course last year the Red Cross called on more than 1,825 instructors, each a registered nurse and authorized to teach only after the Red Cross had reviewed her qualifications and become convinced she had something to contribute to the program. Weekly more and more nurses are being taken from Red Cross rolls for duty with the Army, Navy and United States Public Health Service, and the potential number of instructors in this subject is diminishing rapidly.

Already the teaching force works under pressure, frequently at great personal sacrifice, so that those looking for instruction will not be disappointed. Registered nurses in a position to devote part of their time to teaching home nursing are urged to apply either at their local Red Cross chapter or at the area headquarters in St. Louis, Washington and San Francisco.

Files of the headquarters building are filled with stories—some dramatic, all interesting—of instances in which *(Continued on page 658)*

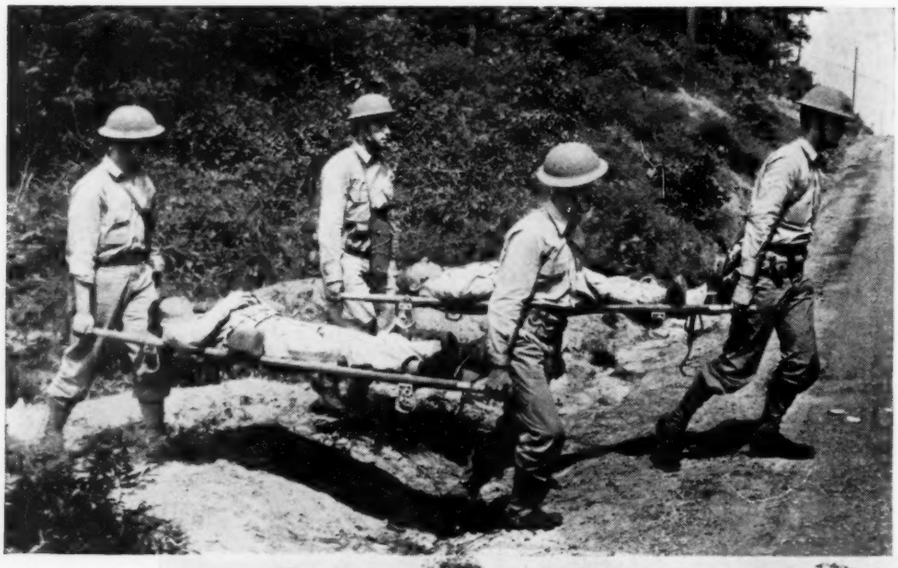
Photographs by
U. S. Army Signal Corps

The battalion or regimental surgeon is constantly available for the sick or wounded army recruit. He lives in the camp and goes into the field with his men. The diagnosis above reveals only a mild case of housemaid's knee.

# The Medical Care of Soldiers

By HENRY C. PILLSBURY

THE UNITED STATES ARMY has always led the world in the prevention of disease. It established a record in 1917 and 1918 that had never been equaled before. And it has not been complacent during the twenty years that have elapsed since that time. The office of the surgeon general, the army medical center and the research boards, working in close collaboration with the civilian efforts throughout the country have introduced the most modern technics in the prevention of disease. The protective inoculations, first developed against smallpox, later, and largely by



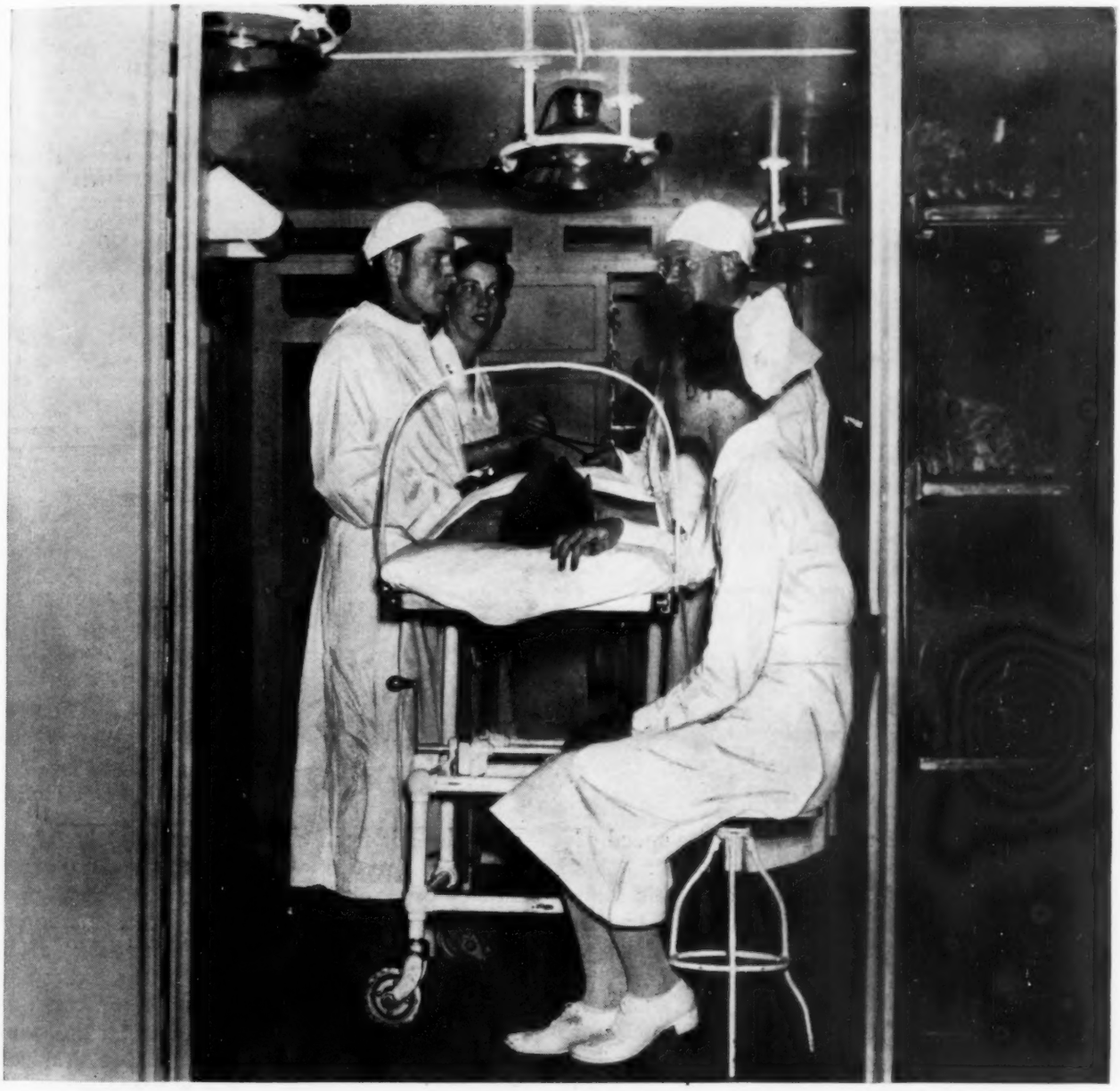
Soldiers attached to a medical corps are thoroughly trained in first aid treatment for wounded personnel. Left: Evacuation of casualties of the "Red" forces.

Along with other mobile medical units the army has developed this railway hospital car.

army efforts, so successfully employed against typhoid, have been simplified to include protection against tetanus and against yellow fever. Equally important, although less dramatic, have been the advances in sanitation—safer food and milk supplies, the control of insect vectors of disease, housing improvements, better clothing and advanced nutrition studies. Toward these improvements the army has drawn freely from civilian sources, always gladly contributed by them. The present elaborate effort is the result of perfect teamwork with every branch of the service; the teamwork that the army likes to call "staff work."

Perhaps the army goes too far, sometimes, and places men in quarantine when it is needless. But no effort is too great to preserve the health of the men in the army—men for whom the army is responsible. Epidemics can occur when young men gather together and are placed in a situation strange to them. The army knows that and guards against it.

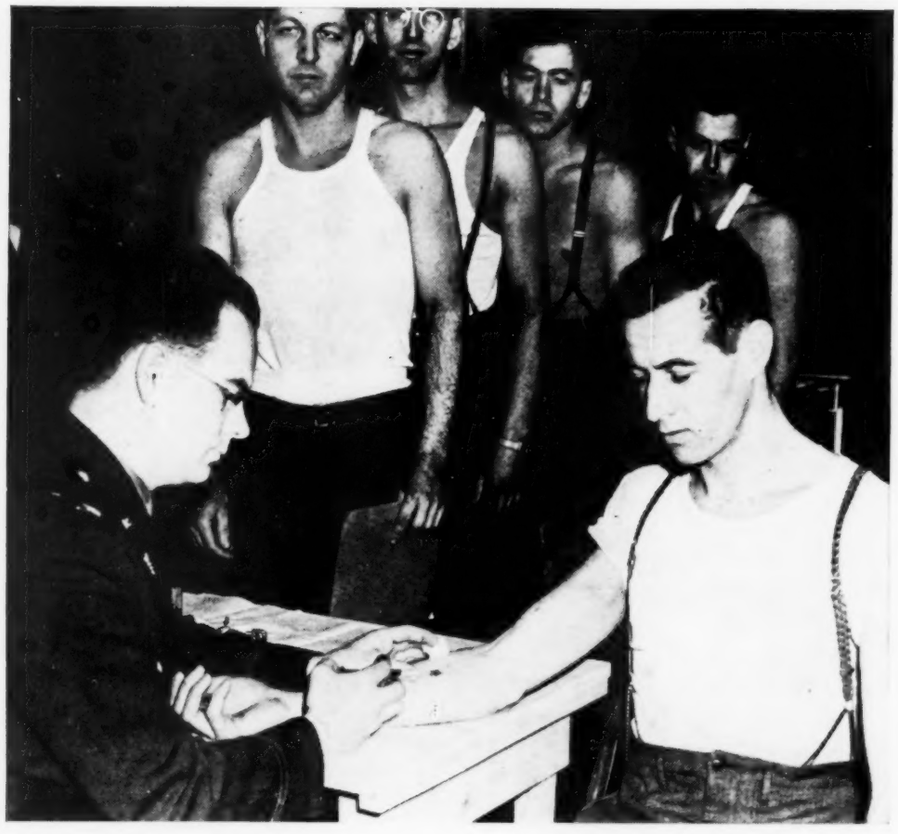
Some persons have spread false tales of epidemics when no epidemics existed. Such false rumors may gain headway and cause



To assist the physicians are trained nurses—young women graduates of nurses' training schools. Adept, expert, sympathetic, they perform in army hospitals the same type of duty they practiced in civil life. Above is an interior view of a mobile surgical unit.

needless heartache and worry. The army knows that to many of you an army camp is a strange place, often too far away for you to visit and see for yourself what it is like. The army knows that you want the truth, all of it, with nothing glossed over or concealed. Experienced officers are assigned to the sole job of getting information to you fully and completely by the daily press and by radio. Epidemics can occur, of course, but if they should, you shall know of it.

Concomitant with the prevention of disease has been the prevention of injury. Despite

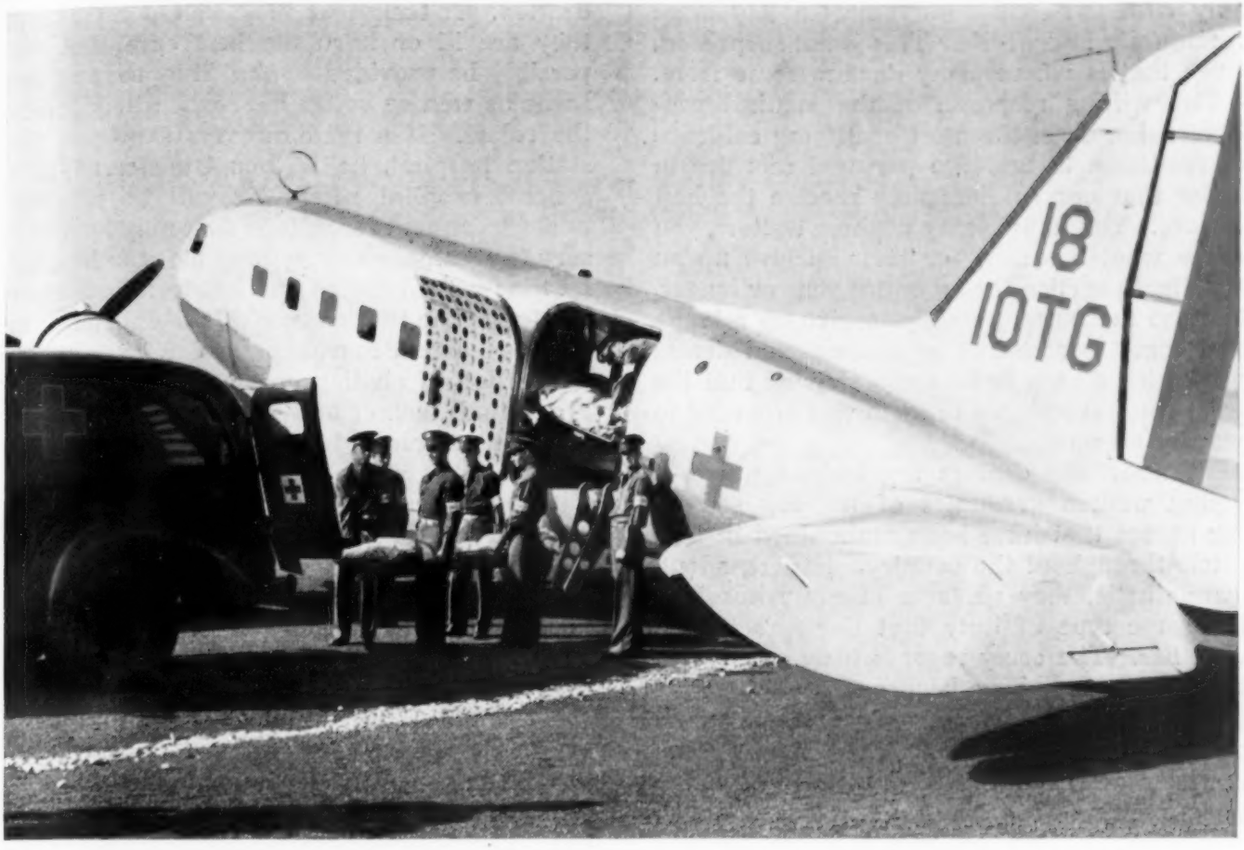


Preventive medicine is a major factor in keeping an army well. Left: Several Selective Service recruits wait in line for their inoculation against diptheria.

the motorization of the army and the speed of maneuvers, injuries are relatively few. This success is due to nothing more dramatic than discipline, careful checking of motor chassis, steering, brakes, careful training of drivers, unremitting vigilance. Added to this, there has been the free use of those technics elaborated for the reduction of industrial hazards.

But suppose a man does get sick—he probably did when he was at home. Suppose he does have an accident. Where does he go to get a doctor? The first doctor he sees is his battalion or regimental surgeon, the doctor who lives in camp and who goes into the field with him. He can get the services of that doctor at any time of the day or night in a matter of minutes. Usually, a simple remedy is all that is needed. But when the doctor diagnoses a more serious ailment, or if there is injury, he calls an ambulance and the sick man is sent to the station hospital. These station hospitals vary in size according to the community they serve—the ones at Fort Devens and at Edwards have 1,000 beds each.

Why so large? The men were healthy enough when they entered the army. Since the army guards against disease so carefully, why does it need so many hospital beds? It is partly for that very prevention of disease. For example, if a man caught a cold last year and ran a temperature, he stayed at home for a few days and you thought nothing of it. You could not remember now just what month that was. You may remember, however, that most of the household had a cold at the same time; some were sicker than others, but you all had it. A man in the army, instead of remaining in his quarters when he becomes ill, is promptly taken out of the place in which he sleeps and sent to the hospital, where he cannot transmit his disease to others and where we can be sure that he gets good care and a comfortable bed. Men with contagious disease are promptly placed in isolation wards. There may be some minor injury that in civil life would cause a man to remain at home for a few days. The army has found by experience over many years that it is wiser and safer to put a man in the hospital for a minor injury or disease than let him remain in his barracks. The station hospitals are excellently equipped with modern apparatus. Doctors serving at them represent all the specialties; the staff is highly trained and compares favor-




Another highly developed mobile medical division is an airplane ambulance. This demonstration was made at Bolling Field, D. C.

Soldiers who suffer casualties in the field are quickly moved to a base hospital. Right: The transfer from an ambulance car.

ably with what may be found in any large community in civil life. This is not surprising, since that is where army doctors come from.

The willing response of the medical profession has been the most gratifying evidence of readiness to undergo personal sacrifice in order that our soldiers may receive the best of care. You know many of these doctors, you know what it means for them to give up an excellent practice for an entire year or longer, to close the office, possibly to give up a home and come to camp. Our medical and dental professional men have again showed that the trust you have placed in them was accorded to worthy citizens.

To assist the doctors are trained nurses—young women graduates of training schools for nurses that have been maintained in hospitals throughout the country. Expert, adept, sympathetic, they perform in army hospitals the same type of duty that they practice in civil life. The army regards their services so highly that they have been accorded the rank of commissioned officers. There are many enlisted men of the medical department, each man already trained or being trained in the adequate care of the sick or the injured. Each man is fitted into the duty that he can best perform.

These men perform many highly specialized duties—depending on their prior education, their natural ability for progress, and the facility they show in carrying out reliably the duties for which they are instructed. The army gives to every man his opportunity, for the army knows that men may be trusted to take advantage of opportunity for advancement in knowledge and in technics. Many persons on duty at our hospitals are drawn from the civil service, men and women alike, who have fitted themselves to perform some part of the complicated process of getting a sick man better.

In addition to the station hospitals, there are in each corps area one or more general hospitals. There is one now opening at Fort Devens, Massachusetts. These hospitals are much like the larger station hospitals. The specialists are more numerous. The equipment is more complete. These hospitals receive men whose recovery would not be expected within a month or two, or whose disease or injury requires special apparatus or prolonged study. The army feels a solemn responsibility toward the young men who have volunteered for service or who have been drafted. It feels that they should receive, if they are ill or hurt, the best care that can possibly be provided so that they may return home as well or better than when they joined the colors. If a man recovers slowly in the station hospital, he is then transferred to a general hospital where he will be retained under treatment for as long as it may be necessary to accomplish everything that can be done by the most advanced medical technics. Here are found the trained nurses, the enlisted men of the medical department, and an ever higher proportion of civilian employees. Here, also, are found technicians skilled in laboratory work, in radiology, in operating room technic; and pharmacists, physiotherapy aides, occupational therapy aides, dietitians—all men and women who have made their living on these jobs in civil life and have become highly proficient. There are clerks, stenographers, bookkeepers, cooks and bakers and kitchen helpers, carpenters, plumbers, steamfitters and mechanics, laborers to unload the supplies and the equipment—all working to the limit of their abilities in order that this common purpose of all of us is fulfilled, for we have decided that we shall have a large army and a good one! Every one should realize that the civilian employees, men and women alike, who are working in our camps so faithfully, have sacrificed much to do so and that they are there because of their sincere desire to help our country in any way they can.

The welfare of the sick in army hospitals is being carefully looked after. The hospital has two chaplains, active, sincere and religious men, who mingle with the personnel, help them in their problems and give them real spiritual guidance. As part of their duties, they often manage athletic sports among the duty personnel.

The Red Cross, too, is doing its part. At each hospital there is a field director in charge with several assistants, each trained in a particular sphere of duty. The Red Cross acts as the direct contact between the chapters in their home towns and the hospital itself. The duties are onerous, but carefully done by experts so that the many needs of the hospital may be met by the willing hands of so many thousand earnest workers at the chapter meetings. They organize the work of the Gray Ladies and of the volunteer aides, and assist those in need of assistance. In short, they carry on those many functions that only a highly trained, experienced directress can perform efficiently.

# Prayers for the Medical Profession

***HYGEIA believes these prayers, offered at the recent general meeting of the American Medical Association, worthy of publication***

Almighty God, source of all life and all well-being, look with Thy most gracious favor, we humbly beseech Thee, on this great company of Thy children in convention assembled.

Most heartily do we praise Thee for the healing art; for those who by long searching seek out the mysterious ways of nature and the truth with which Thou dost reward their quest; for those who administer or serve within great institutions of healing; for those who come with instant succor into our homes to welcome the new-born, to stay the hand of death, to turn suffering into strength.

Sustain all such in their unremitting toil. Go with them on their every errand of mercy. Inspire them with the glad awareness that they are doing Thy work. Let their passion for service spread within us all till not our bodies only but our minds and hearts are healed by Thy grace and we all are taught of Thee how so to walk that we shall be physicians in a sick world, closing the wounds that now divide Thy family and hastening the day when all humanity shall live together in the healthful ways of peace.

To this end make Thy presence evident in every meeting of this Convention and go with all who shall presently return to their scattered posts of duty. In the name of the great healer of the lives of men. Amen.

**Rev. James Austin Richards**
The First Church in Oberlin, Oberlin, Ohio.

Almighty and Eternal God, to know Whom is to live and to serve Whom is to reign, we raise our minds and hearts to Thee at the beginning of this convention.

Thou, Who art infinite light, illumine our pathway:

Thou, Who art eternal wisdom breathe the spirit of knowledge into our deliberations:

Thou, Who art enduring love, inspire in us the fire of Thy divine love, inflame our Hearts with a greater zeal for the service of Thy unfortunate children, that our efforts to prolong human life may be, in every deed, sincere cooperation with Thee, the Supreme Source of Life, and our efforts to lessen human suffering may be in the spirit of anticipation of the Vision Beatific.

In this dread hour, made terrible by burning hates, from our citadel of peace, we look out o'er our war-torn world and pray for the anguished and the dying: Oh God of mercies and compassion, pity the people over whom brood this havoc and disaster: Oh King of Peace, end this frightful carnage: Oh Savior of Mankind, Whose Precious Blood was shed that men might live in love of Thee and of each other, bring them, we beseech Thee, once more together in health, in happiness and harmony. Amen.

**Rt. Rev. Monsignor Maurice Griffin**
St. Philomena's Church, Cleveland, Ohio.

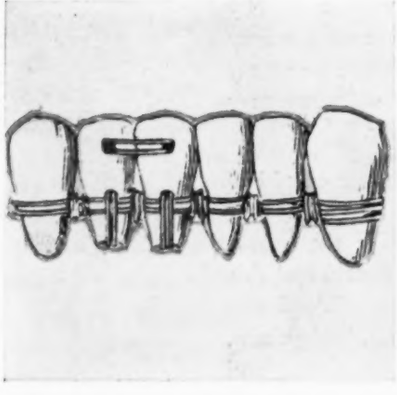
# From Witch Doctor

DENTAL DISEASE has been found everywhere that men are found; it is as old as the human race. Skulls dating back to remote prehistoric eras show teeth affected by caries, and jaws that in life suffered from pyorrhea alveolaris. But although the jaws of prehistoric man show evidence that he suffered from dental and oral diseases, he did not endure the same amount of dental disease noted in modern times.

In 1870 J. R. Mummery reported some interesting findings from his study of early British skulls. In 2 per cent of the jaws in Stone Age skulls he found carious teeth; in the later Bronze Age skulls, this percentage had risen to 21.8. With the coming of Julius Caesar and his legions to Britain, tooth decay increased along with the blessings of good roads, improved weapons and personal hygiene. Of the Romano-British skulls examined by Mummery, 32 per cent showed dental caries. The Romans presently left Britain, and a horde of less civilized Anglo-Saxons descended on the island. Among the jaws of these people Mummery found only 15 per cent afflicted with caries, less than half the amount found among the civilized Romans. In Roman jaws he found, in addition to caries, frequent traces of gum abscesses, several cases of irregularity of the teeth, and some unerupted third molars.

Sir Arthur Keith reported in 1923 that he had examined 50 skulls from one thousand to ten thousand years old and compared the teeth and jaws with those of 50 persons recently dead. He found that both dental disease and irregularities of the teeth and jaws were far more common in modern than in ancient skulls. And while evidence of dental abscesses was found in a good many of the ancient jaws, carious teeth were three times more frequent among the moderns than among the ancients. In none of the ancient skulls was the palate contracted, although this condition appeared in 13 of the 50 modern skulls. "In only 3 of the 50 ancient skulls did the upper and lower teeth fail to meet in an edge-to-edge bite; in all of the 50 modern skulls the bite was of the overlapping or scissors type."

The 50 ancient skulls, too, possessed more complete sets of teeth than the modern ones. Eighty-two wisdom teeth were found in the ancient jaws, as against only 59 in the modern ones. J. S. Wallace states that dental arches from the early Iron Age show an absence of the irregularities found in modern races.



Left: Only specimen of Phoenician dentistry, a gold wire bridge.
Right: This Etruscan dental appliance still adheres to the teeth.

Lucas Dammesz made this engraving in 1523 of a dentist and his method of operation.

# to Modern Dentist: I

By PETER J. BREKHUS

Primitive man's toothaches may have been rare, but when they attacked him he was far less fortunate than his modern civilized descendant. If, as ethnologists and sociologists believe, he resembled the savages of today, he and his friends may have pounded on skin drums and shouted incantations all night long to frighten away the demon gnawing at his tooth, or they may have called a witch doctor or medicine man to cut or burn a hole in the man's head to let out the torturing fiend. For the earliest concept of disease seems to have been that it was caused by some spirit invisible and inimical to man, and the method of fighting it was to drive out the evil spirit or distract or propitiate it by noise, dancing, or sacrifices.

Since the psychologic effect of such performances as drum-beating, incantations and witch-doctoring can be often profound, even in present-day civilized life, it may well be that not a few sufferers were at least temporarily relieved by these means. But sooner or later prehistoric man's developing reason convinced him that getting rid of the tooth that could be seen and felt was more effective than trying to drive away a hypothetical demon. He resorted to crude surgery—having his aching tooth dug and pounded out of its socket with a sharp piece of wood, flint, or, in later times, metal.

As civilization spread gradually over the barbarous Eastern world, dental disease, like other diseases, began to receive a more rational explanation and more humane treatment. Although the theologic interpretation of disease persisted for a long time, the skeletal remains of early civilized peoples, notably the Egyptians and Phoenicians, show evidences of fairly good dental operations and restorations. Teeth were extracted by instruments more skilfully constructed than the caveman's sharpened stone, although still primitive and painful. Surviving samples of artificial bridgework prove that even in early civilizations man valued his teeth and tried to provide artificial substitutes when they were lost through accident or disease.

From early civilizations, too, a number of literary records of dental disease and treatment have been preserved. The Ebers Papyrus, our earliest authentic medical document, parts of which date back to 3700 B. C., or even earlier, mentions cures for "blisters of the teeth" and other dental ailments. There are several references to teeth and to toothache

These extracting instruments were used in 1760 by Joseph Otto, a German Moravian, who practiced in Nazareth, Pa.

Many remedies were used during the Middle Ages to remove worms from the teeth. Above is the fumigation procedure.

in old Jewish books, although these writings do not say that the ancient Hebrews had a remedy for lost teeth. They seem to have worn gold teeth, but they were probably only shells of gold that fitted over their own teeth and were worn as ornaments rather than as dental restorations.

According to Herodotus there were dental specialists in Egypt about 500 B. C., and the Greek physician Hippocrates, born about 460 B. C., has left in his works a few scattered references to afflictions of the teeth. Aristotle, who is said to have known everything a man could know in his time, wrote on dental practices in his "Mechanics" and elsewhere. From his observations we may conclude that the extraction of aching or badly diseased teeth was a fairly common practice about 350 B. C.; that dental forceps were used for this purpose, and that the work was done by physicians, not by dental specialists. Operations on the teeth were performed by at least two of the Greek physicians who founded the medical school at Alexandria, about 300 B. C. It was at this famous school that the dissection of the human body was first practiced systematically.

Knowledge of dental art existed from a remote time in the Italian peninsula, where the Etruscans produced as early as 500 B. C. some remarkably fine artificial appliances, including what are probably the earliest manufactured crowns. Indeed the dental artifices of the Etruscans are so good that it may reasonably be assumed that their teeth were rather bad. Nor did teeth in Italy grow any better as time went on, for in the highly civilized periods of Roman history physicians gave considerable attention to the care of the teeth.

From Celsus, one of the most learned men of the first century A. D., we discovered that toothache was considered "among the worst of tortures" and that many preventives and remedies were prescribed for it. Celsus approved of curing the pain, if possible, without removing the tooth. He also had a good deal to say about ulcers of the mouth and diseases of the gums. From his writings it can be seen that our common oral ailments were familiar in his time.

Galen, born in 131 A. D., the greatest of the ancient Roman physicians, traced the toothache to the nerves in the pulp of the teeth. He taught that both dental caries and ulcers arise from a similar cause. Like Celsus, he recommended using every means to allay toothache before resorting to extraction. He also taught that decayed portions of the teeth should be removed with a sharp cutting instrument. This procedure may or may not have been followed by the insertion of iron fillings. In any case, such fillings seem to have been used by the Romans on occasions.

Presumably it was another Roman of the first century, Scribonius Largus, who first recorded in writing the theory that caries and its resulting pain were caused by worms burrowing at the roots of the teeth. He was very likely only reporting a superstition much older than his own time. Certainly the idea must have been an attractive one, for it persisted almost to the present day, when the worms of our deluded ancestors have been metamorphosed into thoroughly modern bacteria.

Physicians of the Middle Ages prescribed various means for coaxing worms out of the teeth. The burning of hyoscyamus (henbane) seeds was supposed to be especially efficacious. The sufferer from toothache simply burned a handful of seeds in a pan, opened his mouth over it, and let the fumes seep in and the worms drop out. Both physicians and the eternally gullible public continued for centuries to believe this theory, partly because henbane seeds, when burned, curl up and look much like little dead worms, and partly because of the sedative qualities of the herb itself.

As in the case of the older cures based on folklore and superstition, the effect was of course largely psychologic. The worm theory persisted until it was overthrown by Fauchard and Pfaff in the eighteenth century, but it remained for another hundred years or more in the minds of rural people, whom Mummery found as late as 1870 burning henbane seeds to make the worms fall out of their aching teeth.

Among other remedies may be included prayers to Apollonia, a Christian martyr, who is said to have been tortured by having her teeth drawn one by one. She became the patron saint of all toothache sufferers. That such psychologic treatments were used for so long a time may indicate merely that people were stupid, or it may argue that the cures often proved effective. Using any treatment that appeared to work—at least in some cases and some times—was one of the two main therapeutic methods of the Middle Ages.

The other method was that of consulting some ancient master, the older the better. Aristotle, Hippocrates *(Continued on page 666)*

# Meat...

## and Nutrition in the Defense Program

According to Dr. Thomas Parran[1] of the United States Public Health Service, 40 per cent of our population is on a diet which is lacking in meat, fruits, vegetables, and dairy products. This important statement by the chief health officer of the United States government reaches into every home, since adequate nutrition is the first line of defense of a vigorous, healthy nation.

Since the present World War began in September 1939 it has become increasingly obvious that the civilian population as well as the men in the armed forces, in order to endure total war, must have the benefit of a diet adequate in all essential nutrients.

Morale, stamina, courage, and endurance depend to a large extent on good nutrition. An adequate food supply is as important a part of modern warfare as the machines with which it is waged.

Since the first World War the food needs of man have been ascertained with a higher degree of accuracy. Today they can be expressed in units of precise measurement. Foods have been analyzed and their content of essential nutrients recorded. Meat has been found to contain vitamins undreamed of then, not only vitamin $B_1$ (thiamine), vitamin $B_2$ (riboflavin), and nicotinic acid, a vitamin needed for the prevention of pellagra, but probably also the other vitamins contained in the B complex group.

The proteins of meat provide all the essential amino acids needed for the building and maintenance of the body tissues. The minerals of meat —iron, copper, and phosphorus—are valuable in maintaining the body's mineral reserve. In addition, meat enhances the meal and makes the other foodstuffs comprising it more acceptable.[2]

1. Parran, Thomas, Jr.: Nutrition and National Health, Technology Rev. *42*:323 (June) 1940.

2. Council on Foods, Accepted Foods and Their Nutritional Significance, Chicago: American Medical Association, 1939, p. 216.

ACCEPTED AMERICAN MEDICAL ASSN. Council on Foods

*The Seal of Acceptance denotes that the statements made in this advertisement are acceptable to the Council on Foods and Nutrition of the American Medical Association.*

**American Meat Institute**
**CHICAGO**

# Why you should act your age

**AT ANY AGE,** it is wise to know your safe limits of work and play. As you pass forty, however, it becomes increasingly important to understand and respect those limits.

After forty, diseases of the heart and circulatory system begin to take their heavy toll. It must be remembered that heart muscles and blood vessels grow older just as your external appearance does. As they do, coronary heart disease and circulatory diseases, particularly, are more liable to develop.

So it is the better part of wisdom to act your age—to adjust your habits and modify your activities to match your capacities—even though you don't *feel* the need of doing so.

▶ For instance, after forty it is well to avoid sudden indulgence in unusual or over-long exercise—don't be a "week-end athlete." Ease up on your more strenuous activities, and get plenty of rest. Avoid overweight, and take more seriously the annual physical examination that so often detects the first stage of trouble before serious symptoms appear. Above all—*follow your doctor's advice.*

This doesn't mean that you must *worry* about your heart, or entirely abandon your usual recreations. Sensible consideration for your heart, on the contrary, should bring *freedom* from worry, and the likelihood of enjoying *added* years of fun and usefulness.

▶ Of course, warning symptoms of possible heart trouble, such as fainting, shortness of breath, sense of oppression or pain near the heart, call for the immediate attention of your physician. He may make use of such aids to accurate diagnosis as the X-ray, the fluoroscope, and the electrocardiograph. He knows best how to guide you in safely and sensibly acting your age.

▶ For valuable information concerning the hearts of young and old, send for Metropolitan's free booklet, No. 81-Z, "Protecting Your Heart."

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# Sulfanilamide for Trachoma

*(Continued from page 669)*

natives. Almost three out of every one hundred persons in Palestine were afflicted in one eye or both. One reason for this catastrophe was due to the annual pilgrimages of Christians, Jews, and Moslems through the ages to the Holy City, as well as the movement of troops stationed there.

Sufficient grounds for denying immigrant entry into many countries, including the United States, trachoma is classed as a "loathesome or dangerously contagious disease," and is ranked with tuberculosis as a serious illness.

Before sulfanilamide treatment, little progress had been made in eliminating the scourge. Previous methods were often more painful than the disease itself. Efficient equipment and trained ophthalmologists in diagnosing are necessary before trachoma can be completely wiped out.

In the United States trachoma has claimed 70,000 victims; about half are found among the Indians. On hearing of the virus theory, Dr. Fred Loe, Indian Service physician on the Rosebud Reservation, who had been treating trachomatous Indians for twenty years, began to experiment. He prescribed internal doses of sulfanilamide. Two of his most hopeless patients who had not improved in three years of treatment, found their eyes clearing in five days with daily doses of sulfanilamide.

Before this new treatment their eye tissues were scarred, leaving them permanently disabled, by operations. These operations only served to hold the disease in abeyance and it recurred. Sulfanilamide treatment required only about two weeks; their eyes began to clear a day after the first dose, with light sensitivity and excessive watering altogether stopped. After a period of six months, the patients were checked and no case of trachoma recurred.

News of the sulfanilamide treatment is still spreading.

By RUTH COWAN CLOUSE

# Essentials of an Adequate Diet: I

***These standard daily food allowances are recommended by the Committee on Food and Nutrition, National Research Council***

"FOOD WILL WIN the war—Save it!" was a slogan of the United States Food Administration during the first World War. "Food will win the war—Make the right use of it!" might well be the theme of the present preparedness campaign. For, as brought out by the recent Nutrition Conference in Washington, it is chiefly by the right use of food and the consequent improvement in the nutritional status of the nation that America can be made strong "by Making Americans Stronger."

Just as military problems now are different from those of the first World War, so the food problems also are different. Today in the United States there is no existing scarcity of food. The present task is in part one of more equitable distribution of the food now available. To a larger extent, however, the problem is the educational one of bringing the newer knowledge of nutrition to every man, woman and child in the United States in a manner which will make it function actively in daily living.

That a nutrition problem exists in the United States, and that education in nutritional values is needed is evidenced not only by the frequently quoted estimate that one-third of our population is ill-fed and under-nourished, but also by fact that selective service reports continue to reveal a high proportion of physical defects. Many of these defects are of a type which could have been prevented by the proper use of food.

Improved national nutrition means an adequate diet for every member of the population. Before this goal can be reached it is necessary for every woman and every man to know what the essentials of an adequate diet really are. The preparation of a suitable "dietary yardstick" was one of the first tasks undertaken by the Committee on Food and Nutrition of the National Research Council. The accompanying chart shows the recommended daily allowances for specific nutrients as reported by this Committee at the National Nutrition Conference.

The Committee's report explains that in addition to the critical appraisal of the scientific evidence now available the judgments of a considerable group of nutrition authorities, representing various fields of nutrition research, were solicited and that the values given in the chart represent the combined judgment of a large number of nutrition authorities in various parts of the country. They thus represent an authoritative dietary standard for the people of the United States, a standard which can be translated into foods easily available in any part of the country and adjusted to the needs of different age groups, occupations and income levels.

Although advances in the knowledge of nutrition since the last World War have been phenomenal, the Committee pointed out that sufficient experimental evidence on which to base an altogether precise estimate of human requirements for the various nutrients still is lacking, and that judgments as to requirements must at present be

***Recommended Daily Allowances for Specific Nutrients***

| | Calories | Protein, Gm. | Calcium, Gm. | Iron, Mg. | Vitamin A, International Units | Thiamine (Vitamin $B_1$), Mg. | Ascorbic Acid (Vitamin C), Mg. | Riboflavin, Mg. | Nicotinic Acid, Mg. | Vitamin D, International Units |
|---|---|---|---|---|---|---|---|---|---|---|
| Man (154 pounds) | | | | | | | | | | |
| Moderately active | 3,000 | 70 | 0.8 | 12 | 5,000 | 1.8 | 75 | 2.7 | 18 | |
| Very active | 4,500 | .. | ... | .. | ..... | 2.3 | .. | 3.3 | 23 | |
| Sedentary | 2,500 | .. | ... | .. | ..... | 1.5 | .. | 2.2 | 15 | |
| Woman (123.2 pounds) | | | | | | | | | | |
| Moderately active | 2,500 | 60 | 0.8 | 12 | 5,000 | 1.5 | 70 | 2.2 | 15 | |
| Very active | 3,000 | .. | ... | .. | ..... | 1.8 | .. | 2.7 | 18 | |
| Sedentary | 2,100 | .. | ... | .. | ..... | 1.2 | .. | 1.8 | 12 | |
| Pregnancy (latter half) | 2,500 | 85 | 1.5 | 15 | 6,000 | 1.8 | 100 | 2.5 | 18 | 400-800 |
| Lactation | 3,000 | 100 | 2.0 | .. | 8,000 | 2.3 | 150 | 3.0 | 23 | 400-800 |
| Children up to 12 years | | | | | | | | | | |
| Under 1 year | 45.4 per lb. | 1.4-1.8 per lb. | 1.0 | 6 | 1,500 | 0.4 | 30 | 0.6 | 4 | 400-800 |
| 1- 3 years | 1,200 | 40 | 1.0 | 7 | 2,000 | 0.6 | 35 | 0.9 | 6 | |
| 4- 6 years | 1,600 | 50 | 1.0 | 8 | 2,500 | 0.8 | 50 | 1.2 | 8 | |
| 7- 9 years | 2,000 | 60 | 1.0 | 10 | 3,500 | 1.0 | 60 | 1.5 | 10 | |
| 10-12 years | 2,500 | 70 | 1.2 | 12 | 4,500 | 1.2 | 75 | 1.8 | 12 | |
| Children over 12 years | | | | | | | | | | |
| Girls—13-15 years | 2,800 | 80 | 1.3 | 15 | 5,000 | 1.4 | 80 | 2.0 | 14 | |
| 16-20 years | 2,400 | 75 | 1.0 | 15 | 5,000 | 1.2 | 80 | 1.8 | 12 | |
| Boys—13-15 years | 3,200 | 85 | 1.4 | 15 | 5,000 | 1.6 | 90 | 2.4 | 16 | |
| 16-20 years | 3,800 | 100 | 1.4 | 15 | 6,000 | 2.0 | 100 | 3.0 | 20 | |

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based on incomplete and often conflicting reports of research and clinical findings and (in part) on data derived from work on animals. Thus, the incompleteness of the scientific evidence now available and the need for further research on the subject of human dietary requirements is emphasized and the tentative nature of the proposed allowances is indicated. It should occasion no surprise, therefore, if the standards are revised from time to time as more knowledge of human nutritive requirements becomes available. The recommended allowances have been planned to provide for a reasonable margin of safety, but do not allow for extensive losses in cooking.

The Committee's report calls special attention to the fact that its proposed allowances for adults are for healthy men and women of average weight—(154 pounds for the man and about 125 pounds for the woman) and for three different levels of activity. The allowances therefore must be proportionally increased or decreased for larger or smaller persons. They may also need to be greatly altered for persons with disease, especially long-continued fever or diseases of the gastrointestinal tract.

The allowances for children are given by age groups. They are the same for boys and girls of less than 12 years of age but diverge after 12 years when boys tend to grow more rapidly and are considerably more active than girls. The report states that the values given are in each case for the middle age in the group, and represent amounts needed for children of average size and activity. The needs of infants increase from month to month and no definite figure can be given as representative of the entire first year. The values given in the chart represent the need at approximately 6 to 8 months.

The Committee was careful to explore the possibility of obtaining the recommended amounts of the various nutrients from a good diet of natural foods. It cannot be too strongly emphasized that, with the exception of vitamin D, these amounts can be obtained from natural foods, if the diet includes some whole grain cereals or "enriched" flour and bread and other foods whose nutritional values have been improved or "restored" according to policies formulated by the Committee and by the Council of Foods and Nutrition of the American Medical Association. Detailed calculations made by Dr. Lydia J. Roberts, chairman of the Sub-Committee on Standards, and her associates have shown that diets which meet the following dietary pattern will also meet the proposed standard allowances, with the possible exceptions of insignificant amounts of thiamine and riboflavin:

- Milk, 1 pt. for adults; 1½ pts. to 1 qt. for children.
- Egg, 1 daily.
- Meat, 1 serving [20 gms. at 1 year to 100 gms. (3.5 ounces) for an adult].
- Vegetables, 2 servings. One green or yellow.
- Fruit, 2 servings. One serving of citrus fruit or tomato and one other fruit as apple, or prunes.
- Potato, one or more servings.
- Butter or butter substitute with added vitamin A (1 to 5 large pats).
- Cereal and bread, whole grain or "enriched" comprising at least half of the total cereal intake.
- Sugar, fat, and other food to complete the calory needs.

Larger amounts of thiamine and riboflavin may be obtained by more frequent or more generous use of such foods as liver, milk, greens, beans, or other legumes, whole or enriched cereals, meat, and eggs. A more detailed discussion of ways of meeting individual requirements for these and other specific nutrients will be given in the later articles in this series.

It should be recognized that although the dietary pattern described is considered the most practicable in view of present day American food habits, it is not the only one by which the proposed dietary standards can be met. Consequently, it is expected that in communities having a large foreign population or in districts where adequate diets must be constructed at the lowest possible cost, the pattern will be adapted to conform to local racial or financial requirements. Plans to obtain suitable adaptations are already under way and doubtless soon will be reported by many state and local nutrition workers.

**This article is the first of a series in which individual requirements for specific nutrients and the means for obtaining each will be discussed.**

# IS YOUR BABY READY FOR *Junior Foods?*

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5. Lamb And Liver Stew With Milk And Cereals

**VEGETABLES**

6. Chopped Carrots
7. Chopped Spinach
8. Creamed Green Vegetables
9. Chopped Mixed Vegetables

**DESSERTS**

10. Pineapple Rice Pudding
11. Prune Pudding
12. Apple, Fig And Date Dessert

**What?**

**What Are Heinz Junior Foods?** Heinz Junior Foods are diced or chopped foods enriched, in some cases, with highly nutritive materials such as brewers yeast, wheat germ, soybean flour and whey powder. All Heinz Junior Foods are carefully prepared according to recipes developed after years of research by Heinz experts working in cooperation with the Mellon Institute of Pittsburgh.

**Why?**

**Why Are Ordinary Adult Foods Unsuitable For Babies Just Beyond The Strained-Food Age?** To be palatable to grown-ups, most food is highly seasoned—and therefore irritating to baby's delicate stomach. (Heinz Junior Foods are lightly salted—otherwise unseasoned). Fried foods in family meals are also unsuitable. Moreover, baby's food should be cut or chopped, as large particles may cause choking or digestive upsets.

**When?**

**When Should Baby's Diet Be Changed From Strained Foods To Heinz Junior Foods?** Much depends on the number of teeth and baby's ability to chew. The age usually varies from 10 to 18 months. Your doctor is the best judge. Don't make the transition too quickly. Begin by mixing a little Junior Foods with Strained Foods of similar flavor.

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**HEINZ JUNIOR FOODS**

# Food Fads, Fallacies and Facts: I

By DORIS W. McCRAY

SOME PEOPLE believe that eating onions will cure a cold, lettuce will induce sleep, bread crusts make the hair curly, oysters renew youth, meat makes one aggressive, beets build red blood and carrots clear the complexion. Perhaps you yourself have believed some of these statements correct! You may have made no attempt to educate others because you did not have the facts needed for a convincing denial of the fallacy, half-truth or false interpretation of the fact.

Napoleon, a frequent victim of indigestion, made an injudicious decision which led directly to his downfall at Waterloo. However, because he needed a better method of preserving food for his soldiers, he must be given credit for encouraging the beginning of the canning industry.

Once the calory was the only known measure of food value. Today many other values are recognized, including those of the rapidly increasing vitamins which have outgrown their alphabetical nomenclature and have acquired new names since their chemical composition has become known.

Some of the sayings of the learned men of early Greek and Roman culture and the customs of the early Hebrews and Egyptians still influence food habits today.

When a well intentioned friend advises us to eat a large dish of cooked onions to make us sleep tonight, we are reminded of Claudius Galen, the great Greek physician and medical writer who wrote that he had "not been able to find a better remedy than lettuce for wakefulness."

Emperor Augustus was said to be cured of sleeplessness by the "use of lettuce," possibly because it was more easily digested than the rich, heavy foods replaced on his menu.

Pliny, the Roman author remarked that "Garlic is a sovereign remedy for many griefs and maladies," but our modern, authoritative references make no such recommendation for garlic. It is used largely for flavoring and used in small amounts because the flavor is strong. The chemical composition is similar to that of onions.

Since the beginning of history, we find reference to the peculiar curative properties of onions. They were found encased with Egyptian mummies, placed there because of a supposed divine value. In ancient Greece, onions were given to criminals to purify them from their crimes, according to Persius. The Romans gave the juice of onions, diluted with water, to those who suddenly became speechless and dumb. Pliny recommended the use of onions to keep people awake. An early English book, Sir John Sinclair's "Code of Health and Longevity" states unequivocably that "a whole onion eaten at bedtime will, by the next morning, break the severest cold." Unfortunately, this decisive statement has proved itself false. Yet there is still a belief that onions will help a cold, even though they do not cure it. What are the facts about onions? From three to four cooked onions, weighing 7.2 ounces, furnish 100 calories, 3.3 grams of protein, .084 grams of calcium and .001 grams of iron. They also furnish 8 International Units of vitamin $B_1$, 200 International Units of vitamin C, and 27 Sherman-Bourquin units of vitamin G. This means that onions are a particularly good source of vitamin C. They also supply significant amounts of iron and calcium. Small green onions can be ranked as a "fair" source of vitamin A, but mature onions contain none of this dietary essential. Does this composition offer a scientific basis for superstition that onions will help a cold? An excellent state of general health, including good nutrition, is necessary to "resist colds." Vitamin A has sometimes been called the "anti-infective vitamin" because some studies have shown that resistance to infection, particularly infection of the respiratory tract, may be decreased when there is a marked deficiency of vitamin A in the diet. But the differences in susceptibility are not great and do not justify terming vitamin A the "anti-infective vitamin." Even if it could be demonstrated that vitamin A is a specific remedy for colds, onions do not contain enough of this factor to make any difference. Probably the odor and irritant action of onions on the eyes gave them, in the opinion of the unknowing, more power than they really possess.

What recommends lettuce in today's diet? There is no authentic evidence that shows it to have any specific value in producing sleep. It is useful, however, in the diet of normal persons. Because of its high water content lettuce is an unimportant source of calories; to furnish 100 calories, two large heads, each weighing about 10 ounces, are required. But like all green leaves, lettuce, if not bleached, is a rich source of vitamin A and contains fair amounts of vitamins $B_1$ and C. This does not mean that the single leaf of lettuce which garnishes your luncheon salad or entree will furnish important food values. However, when as much as one third of a large head of lettuce (3½ ounces) is eaten, from 100 to 700 International Units of vitamin A and about 18 International Units of vitamin $B_1$, 65 International Units of vitamin C and 24 Sherman-Bourquin units of vitamin G may be obtained.

Lettuce also is well tolerated by most persons. The general impressions of digestibility of food relate mainly to ease or comfort of digestion, which often bears little relation to the extent to which the food is ultimately digested in its passage through the entire digestive tract.

Mysterious nutritional or physiologic properties also have been attributed to other foods. Xenophon urged the Persians to feed their children with watercress, which he said would cause them to grow of better stature and more active habits. Watercress is similar in composition to other fresh, green, leafy vegetables and has about the same vitamin values. It is palatable and, like all green vegetables, is a useful food for children as well as


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*2. "A poor excuse is better than none."*

*3. "Time and tide wait for no man."*

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for adults. It has, however, no unique or mysterious food values.

Through the ages, little girls have been urged to eat the crusts of bread "to make their hair curly." For a little girl, this motive may be far more impelling than any authoritative list of food values. Parents should realize, however, that curly hair and straight hair are inherited in a manner similar to blue eyes and brown eyes. Therefore, the results of the most conscientious crust eating are bound to be distinctly disappointing to the child who has inherited straight hair.

Many other characteristics which can be determined only by heredity, or in some cases by environment, have been said to be changed or caused by food. Many primitive Indians ate venison in order to acquire the swiftness of the deer, but spurned rabbit because they considered rabbits timid. Brains have been eaten to produce brains, and likewise hearts have been eaten for courage. Lord Byron refused to eat meat "because," he said, "it makes me ferocious." Some beliefs of this type persist even today. However, animal breeders well know that the character and behavior of the bull dog and the Pekinese can be altered little by food. Even environment and training will not make basic changes in the character of dogs or man.

There is some difference in chemical composition between venison and rabbit, between brains and heart, but there is no property of food which will alter character traits.

Oysters have often been credited with special virtues. Today we value them most highly for their iodine content. Iodine is necessary for the prevention of simple goiter. Oysters, like other sea foods, are among the richest dietary sources of the element. The use of sea foods may be important when the drinking water is deficient in iodine. However, another reliable, and usually more practical source of this dietary essential is iodized salt. Oysters are a good source of vitamin $B_1$ and contain some vitamin A. Raw oysters also contain some vitamin C. The protein content of oysters is lower than that of most meat and fish, but one serving (one-third cup of raw oysters) furnishes a larger amount of iron than a single serving of most meats, with the exception of beef liver.

All of these facts are interesting, but can oysters restore youth and vigor? Can they actually make you feel younger, or is that just another superstition? In this connection, it is extremely interesting to read that the "preservation of the characteristics of youth" is the apt phrase used by McCollum and Simmonds to summarize the advantages to adults, as well as children, of a liberal use of the protective foods, namely: milk, fruit, vegetables, eggs, whole grain cereals and meat. Because of their high content of some of the vitamins and minerals, oysters rightfully belong in this list of "protective" foods. However, they contain no remarkable properties or food values that in themselves renew or prolong youth.

Preservation of the characteristics of youth and extension of the prime of life are significantly aided by good nutrition, which in turn is aided by the taking of a liberal proportion of the needed calories in the form of the protective foods. It is interesting to note this factual statement in contrast with those fanciful concepts promoted by the statesman with fluent tongue and fertile imagination; for instance, Lucullus, the Roman consul and general says, "After having eaten oysters, we feel joyous, light and agreeable—yes, one might say, fabulously well. When suffering from almost incurable indigestion, by taking oysters daily, depressions of spirits soon cease, such persons become cheerful and happy, and are enabled to again clearly see through a misty atmosphere which has hitherto enclosed them in a kind of living shroud; physical powers return, headaches disappear, and the hitherto dyspeptic, sour and unhappy-tempered man becomes a pleasant and joyous companion, full of life himself and inspirating to those around him."

What a fascinating time the old philosophers must have had, weaving stories about their favorite foods, and how much more inspirating than a mere comparison of the food composition of the oyster, with salmon, eggs and cod liver oil.

But the inspirating effect was largely imaginary! Color similarity has often led to the belief that red beets build red blood. When we refer to one of the best authorities

on nutrition at the present time, we find that the redness of meat and the redness of the blood are due chiefly to hemoglobin, a compound of the protein molecule with hematin, but that the redness of beets is due to an entirely different compound. One of the essential constituents of hemoglobin of the red blood cells is iron.

While anemias may be due to other causes as well as lack of iron, the supply of iron is closely related to hemoglobin formation. Copper is also important.

Thus, we look to iron and copper in the food to furnish material needed for building hemoglobin. Beets contain .85 milligrams of iron per 100 grams of fresh substance, as compared with spinach which contains 2.55 milligrams; egg yolk which contains 8.6 milligrams and whole wheat which contains 5 milligrams per 100 grams. Thus, green spinach, yellow egg yolk and brown whole wheat are all richer in substances essential for hemoglobin formation than are red beets.

Copper, also necessary in hemoglobin, is found in beef and calf liver, oysters, dried legumes, nuts, and in smaller amounts in meat, fish, dried fruits, and in vegetables. Leafy vegetables average about 1 milligram of copper per 1,000 grams (2.2 pounds) of food as compared with fresh calf liver which furnishes about 44.2 milligrams of copper per 1,000 grams.

Do carrots clear the complexion? We find that a clear complexion is one of the signs of health, together with firm muscles, bright eyes and glossy hair—all the signs of "youth"—and all of them dependent largely on a goodly proportion, in the diet, of the "protective" foods. Carrots are one of the foods, being particularly rich in carotene, which can be transformed to vitamin A in the body. Thus, they are useful to the diet, as well as the other fresh vegetables and fruits. It is scarcely possible to have a clear complexion without having all the other characteristics of health and youth. Carrots cannot possibly be put into a class by themselves. They possess no therapeutic property, or mystical ingredient which acts directly to clear the complexion.

Next month: Fallacies regarding canned foods, refrigeration and interesting objections raised against tea, coffee and spice—when they were first introduced—will be presented.


# Bread and War

When war comes to a country, as it has to so many in the last year and a half—proper food is as vital as munitions.

Adequate nutrition for soldiers and civilians is one of the most important factors in winning wars. Food was our biggest problem in the last war. It is one of our biggest problems today.

In the energy-giving diets needed under war-time conditions, bread is significant. The "iron ration" prescribed by a committee of British scientists for use of the people during siege time includes 11.8 ounces of bread a day.

And bread, when enriched with thiamine (vitamin $B_1$), nicotinic acid, and iron, contributes to the diet necessary minerals and vitamins.

England, at war, is now beginning to meet this need. We in America have met it by the voluntary action of our bakers in producing the new *Enriched* breads.

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# The MODERN CARROT

TODAY'S CARROT is about all any one could ask of one vegetable. It tastes good; it is fashionably streamlined; it is attractive in color, and it rates high with the nutritionists.

It was not always thus with carrots. One doesn't have to be an old-timer to remember when carrots were sold mostly in a very mature stage—so hard that only cows were expected to eat them raw. These old-time carrots did not have the mild flavor, rich color, or the gently sloping curves from leafy top to root tip of the modern carrot.

Better methods of distribution have done much to improve carrots. Under refrigeration, fresh young carrots with good color are shipped from producing areas to many parts of the country the year round. Furnishing carrots for the United States right now are Arizona, California, Louisiana and Texas.

In recent years, too, plant scientists have improved the carrot a great deal. Their aim is to get carrots with long, tapering roots, free from hard and woody cores. They also are working for more tender carrots—for smoother carrots that can be scraped more easily. And they are breeding for carrots of a deeper orange color throughout.

In general, the deeper the color of the carrot, the better a source of vitamin A it is. That's because the coloring matter in carrots is a yellow pigment known as carotene. Human beings can convert carotene into vitamin A in their bodies. The chemical name "carotene" stems directly from the word carrot. Carotene extracted from carrots can be prepared today as beautiful orange-yellow crystals. Ordinarily, carotene is sold in solution with oil as a base.

Because vitamin A is such an important item in a good diet, and because both yellow and green leafy vegetables are good sources of carotene, nutritionists recommend at least one serving a day of

these vegetables. They include carrots, as they do other green and yellow-colored vegetables, in their lists of "protective" foods. Besides the vitamin A they supply, carrots also contain significant amounts of calcium and riboflavin.

Partly because of its food value and partly because of carrot improvement, this vegetable's popularity has grown enormously in the past twenty years. Both commercial growers and home gardeners are planting more and more of them. Per capita, we are eating nearly three times as many carrots today as we were in 1920.

According to home economics experts in the Department of Agriculture, the carrot is a regular vegetable-of-all-trades in the kitchen. It is part and parcel of numerous stews, pot roasts, soups and chowders. Carrots and peas have become a combination almost as well-established as succotash. Carrots go into vegetable and nut loaves, into sandwiches and into many vegetable combinations.

Raw carrot is one of the best of all salad joinders. Its mild flavor and bright color combine well with the distinctive flavor and pale color of celery, cabbage and cucumbers. Raw carrots may be served as slender lengthwise strips. They also may be cubed or shredded for use in salads.

Many people like shredded carrot served alone, but it is also good in combination with shredded cabbage, held together with a salad dressing. Ground peanuts, pineapple or orange are good companions for carrots in these salads. Another favorite is shredded carrot gelatin salad.

A good, crunchy sandwich filling is grated carrot in combination with chopped peanuts and salad dressing. A simpler filling may be made by creaming butter, adding finely chopped carrots and a little salt. For every cup of carrots, use about one tablespoonful of butter, or two tablespoonfuls if calories are no object!

Many a vegetable plate is brightened with cooked carrots. Here again they can be combined with many other vegetables. Outside leaves of celery boiled with carrots, or carrots fried with apples add variety and taste contrast. Cooked carrots are something unusual with a cheese sauce over them—and a more substantial dish, too.

However you cook carrots, their color will stay bright throughout. And their vitamin A value will remain intact at all ordinary cooking temperatures. To conserve the calcium in carrots, though, it is best to use as little water as possible in cooking and to serve the liquid with the cooked vegetable.

Carrots sliced lengthwise and cooked in water will take about ten to fifteen minutes to cook tender. Young carrots boiled whole will take from fifteen to twenty minutes. These young carrots may be scraped first, then boiled, but many cooks like to scrub the carrots first, then boil them. After the carrots are tender, the skins may be removed quickly and easily.

Another good way to cook carrots is to slice them in a casserole, then bake with just a little water. Serve plain carrots with melted butter, finely chopped parsley and a little lemon juice to bring out their mild flavor.

*United States Department of Agriculture*


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# QUESTIONS AND *Answers*

### Prostate Gland Disturbances

*To the Editor:*—What is the proper treatment for prostate gland disturbances? Is massage sufficient?

A. S., Tennessee.

*Answer.*—Prostate gland disturbances are usually caused chiefly by conditions arising from infection. Frequently, one or more additional factors may be present such as stones, or small chronic abscesses in the prostate or seminal vesiculitis—all of which are evidence of obstruction in the prostate. Foci of infection elsewhere in the body should be eliminated. In the stubborn case which fails to respond to the usual methods of massage and instillations or irrigations, the use of the newer drugs may aid in treatment. In every case of prostate gland trouble a complete study of the patient is necessary and a proper treatment should be outlined for each patient by the physician in charge.

### Drug Desensitization

*To the Editor:*—Is it practical or possible to be desensitized against quinine?

O. B., California.

*Answer.*—At present, we know of no way to desensitize against drug sensitivity. It is generally believed that the patient is actually not sensitive to the drug itself, but to a product formed in his own body when the drug combines with either his blood or tissue proteins. We have not yet discovered how to make this combination outside the body in order to attempt to immunize the patient with the actual substances to which he is sensitive.

There may be a possibility that the patient may not be sensitive to preparations containing quinine, but to traces of impurities present in the preparations that have been used. Various quinine preparations made by different companies might be carefully tried under a physician's strict supervision to determine whether a reaction occurs. If a number of different brands still give even the slightest rash, quinine preparations cannot be used and no attempt at desensitization should be made.

### Skin Lubricants

*To the Editor:*—Can ordinary mineral oil together with lanolin ointment serve as a suitable skin lubricant? My skin is dry and lanolin alone is difficult to spread. With mineral oil it spreads easily but my skin improves slowly in cold weather.

G. S., Ohio.

*Answer.*—Ordinary mineral oil together with lanolin may serve as a suitable skin lubricant. Skins that are sensitive to wool sometimes will not tolerate lanolin. In such cases, a mixture of olive oil and glycerin sometimes gives greater relief from dryness. If inflammation is present as well as dryness, these materials serve simply as lubricants and protective applications without action on the underlying cause of the trouble. Excessive dryness of the skin and inflammatory conditions characterized by dryness are apt to respond more slowly in cold weather than in warm weather.

### First Aid for Choking Persons

*To the Editor:*—What is the best thing to do for a choking person? I saw a man choking on a chicken bone in a restaurant and no one seemed to know what to do.

A. O., Illinois.

*Answer.*—Choking on food, whether the substance is as hard as bone or merely a large piece of meat, can be serious and sometimes fatal. The great danger is that of suffocation from a large mass that may stick in the region of the vocal cords and cut off the air supply. This event may happen so rapidly that no emergency treatment is of much help. If the object is small enough to pass through the larynx down the windpipe, the emergency is less acute, although subsequent treatment may be necessary because of the presence of the foreign body in the bronchial tubes. The choking person should be placed face down and given as much breathing space as possible. Constricting collars or bands about the neck should be removed and an effort made to get him to a hospital rapidly. It is of little value for the ordinary bystander to attempt extraction of any mass with the fingers or simple instruments that may be at hand. No attempt should be made to force the person to swallow water or other liquids. If the patient survives long enough to be taken where expert attention is available, successful removal of the foreign material is usually possible.

### Climate for Asthma

*To the Editor:*—The general climatic condition of Massena Springs, N. Y., is of vital interest to me as regards a person subject to asthma, now living comfortably in Denver. He would like to change positions but must know the altitude, how much humidity, and other climate variations.

I am writing to the Department of Health in New York State, but would also appreciate any information regarding asthma in Massena, N. Y. Would there be excessive dampness

G. T., Illinois.

*Answer.*—The city of Massena is located in northern New York State, ten miles from the Canadian border. It has an elevation of approximately 250 feet above sea level. Massena Springs is located approximately one mile south of the city of Massena.

For the year 1940, the Weather Bureau of the United States Department of Commerce, located at Cornell and covering the state of New York, reported that the annual rainfall at Massena was 29.7 inches, coming mostly in May, June and July. Other data regarding the weather are not directly available

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for Massena, but Lawrenceville, which lies a few miles south of Massena at a somewhat higher elevation, had an average mean temperature of 42 F.

The city is located on the Racquette River and only a few miles from the St. Lawrence River. In this general section, climate variations may be extreme, as the movements of both high and low pressure areas from the region of the Great Lakes frequently pass through the St. Lawrence Valley on their way to the east. This would result in distinct climatic variations which would likely not be well tolerated by a patient with asthma.

It would not appear advisable for a person to transfer from Denver, Colo., with its high elevation to Massena, which is only slightly above sea level and located in a large river valley directly in the path of large atmospheric movements, without first visiting the new location and determining his response to the local conditions. This would also give opportunity to obtain information from the physicians there regarding this question.

### Cataracts

*To the Editor:*—Can human cataract be treated by administering hypodermically small doses of insulin?

G. L., Kentucky.

*Answer.*—Insulin to prevent cataract is not in general use by those who treat diseases of the eye. Cataract, except when due to injury of the eye, develops slowly. Insulin would have to be used a long time before any one could judge that it was really preventing the development of cataract or delaying it.

### Why Infants Smile

*To the Editor:*—What makes a small baby smile? Do they "think" of something, or do they unconsciously use those muscles? My 3 week old son smiles occasionally in his sleep.

V. N., Illinois.

*Answer.*—At present there is no evidence to indicate that infants indulge in conscious thinking which would lead to emotional expressions involved in smiling, yet babies have smiled only a few hours after birth. Observation with a movie camera has recorded that young infants often smile in their sleep, but seldom when they are awake unless the skin around the zone near the mouth is gently stroked. The smile seen on the baby during sleep is thought to be of reflex origin, an unconscious act of which the baby may be entirely unaware. It should be remembered that the mouth and lips are the most sensitive parts of the body early in infancy. Stimuli in this area, from within and without, are readily received and the reflex movement of some of the facial muscles respond to produce the smile.

### Caloric Content of Foods

*To the Editor:*—Has brown sugar the same content of sweetness as white sugar, and are white and brown sugar as sweet as honey? What are the measures of white and brown sugar and honey to the equal sweetness?

P. B., Iowa.

*Answer.*—According to standard tables of food values, 100 grams of brown sugar contains 95 grams of actual sugar and 5 grams of other substances and furnishes 380 calories. This is equal to ten level tablespoons.

According to the same source, 100 grams of granulated, or white sugar, either beet or cane, contains 100 grams of actual sugar and no other substances and furnishes 400 calories. This is equal to seven level tablespoons.

According to the same authority, 100 grams of honey contains 81.2 grams of sugar and furnishes 326 calories. This is equal to five tablespoons.

You will see, therefore, that you need to use more brown sugar, if you measure it by tablespoons, to get the same amount of sugar or sweetening as with white or granulated sugar; but, if you measure them by weight, they are about equal. Honey has less sweetening power, because it is a syrup and contains approximately 20 per cent of water.

If you have a question relating to health, write to "Questions and Answers," HYGEIA, enclosing a three-cent stamp. Questions are submitted to recognized authorities in the several branches of medicine. Diagnoses in individual cases are not attempted nor is treatment prescribed. Anonymous letters are ignored.

## Mussel Poisoning

(Continued from page 622)

rary exposure to the sun does not harm living mussels, nor does it make them poisonous. (3) Mussels below the tide line are, if anything, more poisonous than those above the water. (4) Copper in the rocks, oil on the beaches or pollution of the water are in no way connected with mussel poisoning. (5) Toxic mussels or clams cannot be distinguished from normal ones without animal tests. (6) Discoloration of a piece of garlic or of a silver spoon in the pot are no indicators for poisonous mussels.

Instead, the simple story of the "Chain of Intoxication," from the microscopic plant through the cold-blooded animal to man, should readily find its way into the minds of the people along the coast and help to eradicate this type of food poisoning.

### EGG YOLK POWDER

The feeding of egg yolk powder caused 9 of 10 patients to gain weight, whereas previous high calory diets supplemented by vitamins had failed, Alfred Steiner, New York, reports in *The Journal of the American Medical Association.*

It is believed that some factor other than the caloric value of the egg yolk powder may play a part in the resultant increase in the nutrition of the body inasmuch as the calory intake of 5 of the patients was below and that of the other 5 but slightly above that of a control period when they failed to gain weight on a well balanced diet that did not contain the egg yolk powder.

"Egg yolk powder," the New York man says, "is a rich source of vitamins A and D and the water-soluble fraction of the vitamin B complex. The cost of the egg yolk powder was 15.4 cents daily, or $1.08 a week, for each patient.

"From the data presented it would appear of value to add egg yolk powder to the list of agents used in stimulating an increase in body weight in special instances."

SAY goodbye to external pads on your vacation this year . . . Tampax helps you to conquer the calendar, because Tampax is *worn internally.* Even in a '41 swim suit, it cannot show through; no bulge or wrinkle or faintest line can be caused by Tampax. And you yourself cannot feel it!

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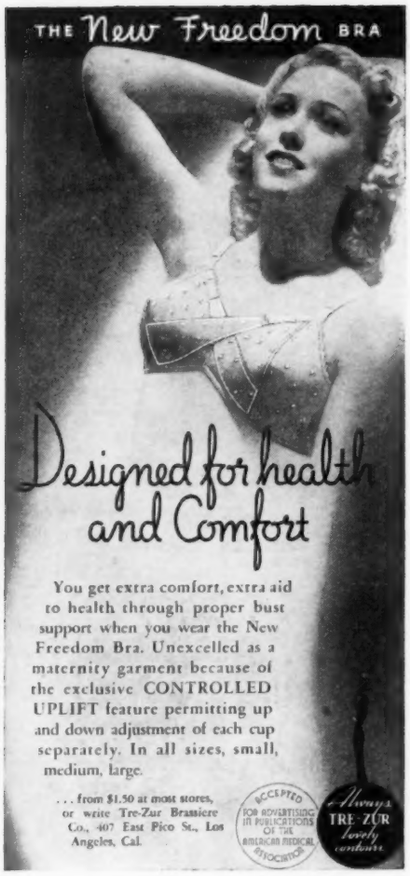


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# Sex Education for the Married Couple

(*Continued from page 604*)

to make this possible. Usually, the depth of affection, understanding and appreciation increases with the years together. If, however, the personalities or previous attitudes and values of the pair lead to continuing frustration and strife, separation should be seriously considered. Evidence shows that children reared in a home of severe conflict are more apt to acquire personality difficulties than are children raised in a broken home where the affection and security of one parent are assured.

(10) Sexual expression is only one part of life and marriage but it is, with the exception of a few marriages, of fundamental importance and, when shared with a beloved partner, contributes vitally to the positive emotions—the humanizing, sharing, creative and spiritual forces in life.

Almost every young man and woman is much concerned with increasing his knowledge, understanding and ability which will lead to a constructive family life. Opportunity for intellectual growth and education is afforded practically every person in our nation. Similar opportunities for emotional development and guidance should be available. Sex education should be a continuous rather than an isolated part of life and reliable information should be available at the time it is desired. Much assistance can come from contact with persons whose own adjustments are satisfying. Here, those unspoken but deeply felt reactions which occur between people constitute one important method of guidance. Assistance can come through information and understanding of the physiology of reproduction, of the variety of procedures which bring mutual sexual satisfaction to different persons, of the ability to have desired rather than unwanted children, of attitudes which will allow the partners to live and let live and to participate in that which brings to both satisfaction, inspiration and exaltation.

The family is not only a biologic unit but a social and economic unit as well. A happy relationship between a man and woman serves as a foundation for security, strength and creative living for the two persons concerned, for their children and, therefore, for the community and for the nation.

## SUGGESTED READINGS

"Emotional Adjustment in Marriage" by L. M. Clark, M.D. Cloth. Price, $3. Pp. 261. St. Louis: C. V. Mosby, 1937.

"The Happy Family" by J. Levy and R. Monroe. Cloth. Price, $2.75. Pp. 319. New York: Alfred Knopf. 1938.

"Marriage and Parenthood." Pamphlet. Price, 15 cents. Friends Book Store, 302 Arch St., Philadelphia.

"Marriage and Sexual Harmony" by O. M. Butterfield. Pamphlet. Price, 50 cents. New York: Emerson Books, 1938.

"Practical Birth Control Methods" by N. E. Himes. Cloth. Price, $1.49. Pp. 254. New York: Modern Age Books, 1938.

"Preparation for Marriage" by E. R. Groves. Cloth. Price, $1.50. Pp. 124. New York: Emerson Books, 1936.

"Preparing for Marriage" by P. Popenoe. Pamphlet. Price, 25 cents. Los Angeles: American Institute of Family Relations.

"What Our Marriage Means to Us" by One Married Couple. Pamphlet. Price, 25 cents. New York: Womans Press, 1939.

"Your Marriage" by N. E. Himes. Cloth. Price, $3.75. Pp. 448. New York: Farrar & Rinehart, 1940.

# The Call of the Open Sea

(Continued from page 613)

heeding that call in both directions. There was recently concluded on Newport Bay, Calif., the Sixth Annual Rendezvous of the Sea Scouts from the Pacific Southwest. One thousand strong, they pitched their tents, broke out their gear and, in a few hours' time, had their model tent city with kitchen, dining salon, lockers and outhouses ready for inspection and use. Some came in auto trailers and buses, others in their own or borrowed boats of every kind and description. None were beautiful yachts but to these proud owners there were none finer.

Many of the sea scouts come from the interior of the United States to learn the ways of the sea and the changing elements by observation and personal experience. They are preparing themselves for duty in the merchant marine, the coast guard, the life saving stations and the navy. In their developmental evolution, Newport Bay in Southern California has played an important part. Here, boys and girls get their start under the watchful eye of their parents.

The transformation that takes place in a child's physical and mental status as he lives through these activities of early youth is indeed remarkable. Perhaps when he arrived at the water's edge he was not strong, not husky. Possibly he was an indoor youngster, unacquainted with an abundance of fresh air and sunshine. After paddling along on a surf board, rowing a boat or sailing a washtub or small yacht he has learned to swim, to develop his muscles and to judge wind and weather conditions. In a short time he has improved both his physical status and his mental caliber to a point where he is now physically fit and mentally alert to take on successfully the responsibilities of American citizenship.

Set for Romance

*Late summer . . . . time when elusive romance pauses in a garden to listen to the melodies of the soft night air . . . . when the stars hang heavy in the skies as if personally ordered to enchant the garden . . . . when memories are woven into a pattern for delightful reminiscence . . . . when a beautiful girl marks that pattern with poem-like sweetness. For what can be more charming than a garden, a girl and a moon? . . . . that is if the girl is as natural as the garden and as glowing as the moon. Personal, thoughtful care by night and day invites romance . . . . skin that by its cleanliness and softness reflects the moonlight, and makeup so individually selected and artistically applied that it blends into the complexion as naturally as the subtle shading of a rose. A summer night, Cupid in the garden, a handkerchief dropped upon the grass . . . . Set for Romance.*

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# On the Home Front

**(Continued from page 630)**

home nursing knowledge at least eased the suffering of a victim of sudden illness; very often the stories tell how the learning saved a patient's life.

One account selected at random from out of thousands reveals the type of woman the Red Cross wants to produce in large numbers:

Mrs. Brown lives in an isolated area in the cut-over timber country of Northern Wisconsin. Her neighbors regard her as a community leader and frequently call on her for help in emergencies when the doctor is not around. Without thought of making money from these services, Mrs. Brown went to considerable trouble to take the home nursing course in order to be of better assistance to her friends.

Now the community housewives have an accustomed procedure, when their families are struck by illness or disease. They send for Mrs. Brown. Sometimes it is only necessary for her to put a clean dressing on a wound, or advise on bathing an ill patient. But her good judgment frequently advises a trip to the doctor. If the patient is able, she helps prepare for the long trip to town; if not, Mrs. Brown sees that a messenger goes to the nearest phone, miles away, to call the doctor out to the sick home. Mrs. Brown stands by rendering nursing care until the doctor arrives, then stays to see that his instructions are carried out.

The Welfare Subdivision of the Works Projects Administration's Community Service Program has and is training a small army of men and women in such ways that they are better equipped than before to help prevent disease and assist in caring for the sick. This training at the same time is designed primarily to provide them with jobs and to furnish hospitals and other similar employers with competent personnel which they could not afford otherwise.

For instance, there are the 36,000 women working on WPA housekeeping aid projects throughout the country. These women, after receiving instruction at training centers, are sent to homes where the mother is ill or otherwise unable to care for her family. Cases are referred to WPA by tax-supported welfare agencies.

A housekeeping aide's duties are for the most part what the title implies: laundering, cleaning house, etc. They do receive instruction, however, in elementary care of the sick, spending one day out of every five at the training center for additional instruction. They are not allowed to prescribe medicines or remedies, nor give medicine except under written instruction of doctor or nurse; nor put drops in eyes, nose or ears; nor ever give first aid treatment.

They are expected to keep sick rooms clean, quiet and comfortable, prepare sick persons for meals, keep beds clean and well made.

Another group of WPA workers who are absorbing valuable self-help methods toward better health while earning a livelihood are the 14,000 subsidiary workers who today augment the activities of some 1,000 hospitals, convalescent homes, institutions and county homes. Under professional supervision these workers either assist in kitchens, help feed helpless patients, work in laundries and laboratories and assist in wards as orderlies and ward helpers. In short, they work in any hospital department where nonprofessional help is important to rendering better care for the sick. These workers, too, receive elementary instruction in personal hygiene, the nature of disease and methods of fighting disease in addition to the training their experience provides.

As a part of its national defense plan, the WPA has launched an ambitious program to train 50,000 institutional subsidiary workers in the present year. The type of work undertaken on this program is similar, though much more intensive, than the project described above. The purpose is to train a sufficient

number of workers who could assist under professional supervision in meeting acute health situations in national emergencies.

Applicants for this training usually come from various other WPA projects. They are assigned to institutions cooperating in the program, and rotate through all departments where nonprofessional but trained care is needed. They emerge as "Jacks of all trades," valuable employees which hospitals have neither the time nor money to produce themselves.

In addition to this training, the workers get together for a course of instruction which includes personal hygiene, housekeeping for the sick, preparation of foods, care of convalescent children, and care of the aged and chronic. After the training period the workers may be assigned either to the hospital where they received instruction, employed by a private institution because they are trained, or assigned to their original WPA project, to be used as a reservoir in cases of emergency or disaster. In any event, they add to the growing body of citizens who are not panicky in the face of disease because they know what to do.

Other WPA projects are training thousands of additional men and women along lines which help spread the home nursing gospel. It is estimated that when one person receives the instruction, ten other people are affected and benefit by his training. The WPA has 36,000 women at work preparing lunches for school children; 5,000 to 6,000 workers in clinics, taking care of ambulatory cases; another 3,000 workers trained in health and medical matters are assisting in some 400 health departments and other laboratories; and 1,000 men and women work on the WPA's school medical services, including school examination and immunization projects.

The National Youth Administration has a program for young people similar to the WPA's institutional subsidiary workers project. These "health and hospital attendants" projects materially assist under-staffed hospitals and clinics, and give the NYA youth sound experience and training along positive health lines.

On many of the individual NYA projects, arrangements have been

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worked out to permit the employees to attend classes which teach subjects having a direct bearing on this kind of work. These classes provide instruction in personal hygiene, first aid, infant and child care, home care of the sick, general health education, selection and preparation of foods, household and community sanitation, care of convalescents, chronic and aged patients, and information concerning communicable diseases.

The United States Office of Education has undertaken to spur interest in the nation's schools in home hygiene instruction. In a recently issued pamphlet on "Home Nursing in High Schools," first in a series on "Education and National Defense," the Office declares: "It seems clear that one distinctly important contribution which the public schools can make to the conservation of the health assets of the nation, and hence to national defense, is the more general requirement of instruction in home hygiene and care of the ill or injured, of all girls in the high schools."

Data from a national statistical study made by the office of home economics in the public schools of the United States reveal the wide extent of home nursing instruction to high school girls. Of the 17,000 high schools providing home economics courses, some 13,750 offer instruction in family health; that is, training in home care of the sick and in health maintenance.

The Office of Education points out that Federal funds available for vocational education under the Smith-Hughes and George-Deen Acts are now used in a number of states to assist in the reimbursement of day, part-time and evening classes in home nursing for adults. Extension classes in chemistry and dietetics for nurses are sometimes organized under public school auspices for nurses in hospital training.

Again, classes in home nursing have been organized in some states for up-grading practical nurses. Short unit evening courses for adult home-makers are frequently offered in state educational systems. Although exact figures on the number of adults enrolled in such public school classes are difficult to obtain, reliable estimates seem to indicate that more than 10,000 adults annually pursue one or another of these courses.

With the Red Cross, the WPA, the NYA and the Office of Education all working together in the field, there exists ample opportunity for instruction in home nursing. Those women and men who desire to learn have little difficulty in finding a teacher. And it is vital to the health and strength of the nation—especially during the emergency—that the desire to learn be created in thousands of people during the immediate future.

The spirit which all the agencies would like to see engendered is expressed in an unusual letter of appreciation recently received by the Red Cross from a boy in a California mining district:

"I have enjoyed the class," he scrawled, "and it has learned me a great many things that I thought were impossible for instance I thought that when you quit breathing that your heart stopped beating but I was wrong. It was very interesting to learn about artificial resperation and the reaction it had on a person, and how you could save a great many lives by using it and useing it carectly.

"I think that I learned the most when we were studying about the different types and classes of desiese that were in the world today and just how dangerous they were to the human body. It was good news to when I learned how to keep from getting the biggest part of these desieses and how to take care of them when you got them."

Without grading the boy's essay for grammar, the Red Cross holds it in esteem for expressing the true purpose of all home nursing education.

## CONGENITAL SYPHILIS

X-ray films of the unerupted permanent teeth as well as of the long bones should be used as aid in the early diagnosis of congenital (existing at or before birth) syphilis, Bernard G. Sarnat, Isaac Schour and Robert Heupel, Chicago, state in *The Journal of the American Medical Association.*

They explain that only the permanent teeth are affected because they are in the stage of formation before birth and in early infancy, when congenital syphilis probably is most active.

# BOOKS ON HEALTH

### Let's Look at Your Teeth

By Robert H. Brotman, D.D.S. Cloth. Price, $2.50. Pp. 277. Illustrated. New York: House of Field, Inc., 1940.

The author has cleverly interwoven information about the care of the mouth with anecdotes of an interesting and sometimes personal nature. It is evident that he has drawn on many years of private family practice to illustrate and leaven what otherwise might have been another dry treatise on teeth.

The chapter on the development of dentistry is rather sketchy and leaves the reader with a feeling of incompleteness. However, the chapters on decay, abscessed teeth, diagnosis, pyorrhea, anesthesia, artificial teeth and children's dentistry are not only complete but written in a style that will hold the reader's attention. The two chapters on Dental Dens and Dental Quackery are alone worth the price of the book. They describe much of the chicanery of the rapidly disappearing dental charlatan.

All dentists who read this book may not agree with all of the author's recommendations, but most dentists will agree with most of them. Certainly, they will recognize in the author's illustrations typical types of patients of their own and characteristic situations in their own practice.

The laity, and after all the book is written for the laity, will find that its chapters answer most of their common questions on the care of the mouth. LON MORREY, D.D.S.

### More Years for the Asking

By Peter J. Steincrohn, M.D. Cloth. Price, $2. Pp. 218. New York: D. Appleton-Century Company, 1940.

Dr. Thomas Parran, Surgeon General of the United States Public Health Service, has said: "It would be possible to add ten years to the average life span of people living in the United States if we made full use of the scientific knowledge now available." Taking this quotation as his text, the author attempts to prove in simple, nontechnical language the need for preventive medical care.

From his experience with patients over a period of years, he illustrates how various persons could have added years to their lives by going to a physician regularly for a complete physical examination and, once going, following instructions. Simple explanations of the various diagnostic tools employed by the physician are given. Such chapters as "Stomach Trouble," "Kidney Disease," "Have a Heart—A Good One," present facts which show the life-saving value of periodic physical examinations for the adult.

The weakest chapter is the one entitled "Everyone Is Nervous." Here the presentation is oversimplified and the author's point of view is misleading. He seems less at home in discussing the effects of mental strain on the body and does not refer to the enormous amount of work which has been done in the field of psychiatry.

For the man or woman over 35 who has little information about health problems, this volume would

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be a good introduction. For those who have read extensively, it might prove to be too elementary.

W. G. SMILLIE, M.D.

### Healthful Living

By Jesse Feiring Williams, M.D. Cloth. Price, $1.60. Illustrated. Pp. 600. New York: The Macmillan Company, 1941.

This revised edition of Dr. Williams' useful book has been improved with much rewriting and the addition of new material to bring it up to date. There is hardly a two-page spread in the book without a table, graph, photograph, or diagram. Practically 60 pages are devoted to teaching helps, such as facts to review, questions to think about, and interesting things to do. With each chapter, there is a list of books to read. The plan of the book is to combine structure with function. An opening chapter presents the problem of healthful living and subsequent chapters proceed in a logical and orderly manner from cell to tissue, from tissue to organ, from organ to organ system, and thence to function and hygiene.

There are excellent chapters on alcohol and tobacco, health problems of the machine age, and the modern view of health. An appendix covers first aid in emergencies. There is an adequate clear glossary covering 25 pages. The book is well indexed. It should be an excellent text book for any course in hygiene at the college level or in the senior high school. Not only is its approach functional, but it emphasizes living as a game which is played according to rules. This is an approach in which the author was a pioneer. The thought is built around the motto first used in the author's book "Personal Hygiene Applied": "To live most and to serve best."

W. W. BAUER, M.D.

### Hygiene

By Florence L. Meredith, B.Sc., M.D. Cloth. Price, $3.50. Pp. 823. Illustrated. The Blakiston Company, 1941.

This new edition, like the previous ones, is an excellent book. It is well written, scientifically accurate, except possibly for a few minor details. The illustrations are well chosen and the publication job splendid. The book, has, however, become so encyclopedic that it has lost its usefulness for most courses in college hygiene.

In its 800 pages this volume includes material on medical history, health habits, such as washing the hands, brushing the teeth, shampooing the hair, manicuring the nails, etc., anatomy and physiology, infection and resistance, the control of specific communicable diseases, first aid, "diseases of internal origin," personal hygiene, parenthood, mental hygiene, the sex impulse and the social impulse.

These are all important and pertinent subjects but to include them in one work obviously makes the book more suitable as a reference book than as a text book.

W. G. S.

### Roping

By Bernard S. Mason. Cloth. Price, $1. Pp. 138. Illustrated. New York: A. S. Barnes and Company, 1940.

Bernard Mason, Editor of the Camping Magazine, capitalizes on the desire of all "dudes" to westernize themselves as much as possible. He assumes that the average reader has never had a spinning rope in his hand and, therefore, starts with a description and preparation of such a rope. From the simple flat spin he progresses by easy stages to the more complicated movements, such as the ocean wave with skip. Following this the author describes lariat throwing and roping of objects. The book is well written and concise, and the illustrations are adequate. It must be emphasized, however, that the theory of an art such as this is of no value unless the reader is willing to invest hours of practice.

H. R. K.

## NOTICE

Books reviewed in this section should be ordered from booksellers or direct from the publishers. They may not be secured through HYGEIA or the American Medical Association, unless published by this organization. The following list contains the complete addresses where the publishers mentioned in these reviews may be reached:

D. Appleton-Century Company, 35 West 32nd St., New York City.

A. S. Barnes and Company, 67 West 44th St., New York City.

The Blakiston Company, 1012 Walnut St., Philadelphia, Pa.

House of Field, Inc., 19 West 44th St., New York City.

The Macmillan Company, 60 Fifth Ave., New York City.

# The Children's Speech Clinic: I

***Parents need to know some of the facts related to speech since many important speech developments occur in the preschool years***

**By RUTH E. BECKEY**

LESS THAN 5 per cent of the population have excellent speech! This has been the estimate made by several investigators as a result of surveys made in school systems. At the other extreme, from 5 to 10 per cent have defects severe enough to need the services of a speech specialist. Consequently, approximately 95 per cent of our people need some form of speech correction or improvement. It has been estimated that 96 per cent of the speech-handicapped go without any special reeducation.

At present, only a few states have provided a state-wide reeducation program for the child defective in speech. Among these are California, Wisconsin, New York, Virginia and Missouri. A few large cities in the other states have speech correction facilities. As time goes on, the reeducation of the speech-deficient child will become more widespread. School administrators will even require their elementary teachers to take courses in speech correction.

Even though the main responsibility for speech correction lies with the educational systems of the country, the parents need to know some of the facts related to speech since the important speech development period occurs during the preschool age. The parent must be able to recognize the first indications of a speech disorder, to have some idea of how to encourage a better development of speech, and to know what factors in the child's environment may not be conducive to good speech.

If your child stutters, or has some severe articulatory defect, he will have a difficult life if the disorder is not corrected early. The older he grows, the more handicapped he becomes. In society, the speech defective will remain silent rather than be made the object of stares and ridicule. As adolescence approaches, and the child becomes interested in his appearance and the opposite sex, he finds his affliction harder to bear. Then, as he approaches the time to get a job, his speech handicap becomes an economic problem. No employer will hire a person who stutters excessively, especially if the prospective employee will have much occasion to deal with people. Think of the opportunities which would be closed to a speech defective: he could not teach; he could not clerk in stores; he could not preach; and he could not be a doctor, lawyer, or salesman. He would have to be placed in some lonely job where his contact with people would be placed at a minimum.

In many cases, the speech defective is retarded educationally because of his defect. The student

Photographs are often used as an aid in the diagnosis of speech difficulties of young children. A voice recording may be made to serve as a basis for voice comparison after speech training.

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who stutters or has unintelligible speech will not volunteer information. He sits and lets his classmates talk. The teacher, thinking that the child does not know the answer, grades him accordingly.

Before permanent injury is done to your child educationally, psychologically, socially and economically, secure the aid of a speech specialist as early as you find that your child is defective in speech development. The mother may be comforted by the family physician, friends, or relatives, "Oh, don't worry, he'll outgrow it." Then they proceed to tell how Tom or Dick was slow in learning to talk, or used baby talk until he was six years old. It may be true that some children do outgrow the difficulty, but many do not. Your child may be one who will not proceed without special help.

When is speech defective? Speech or voice may be seriously defective if the person is incapable of securing adequate social responses, and thereby attracts unfavorable attention to himself. A speech specialist may be needed to diagnose the causes of the speech deviation, but the average person can point out the severe stutterer, lisper, or conspicuously inarticulate speaker.

However, to the average person, all other varying degrees of poor voices and speech, seriously handicapping personality and indirectly handicapping professional advancement, are given little consideration. The sales girl behind the counter may have a whining, nasal voice; a housewife may be unwelcome at the women's club because of her high, shrill voice; a school teacher may have a rasping, harsh voice which irritates her pupils after ten minutes; or the business man may lisp and talk with "mush in his mouth." None of these pople can hope to be promoted professionally or socially.

Considering the extreme complexity of the speech organs involved in speaking, it is a wonder that any of us speak as well as we do. Biologically and fundamentally, no part of the human organism was intended principally for speech. The breathing mechanism is used to help supply air to the lungs that we may live. The larynx or voice box serves to regulate the amount of air going to and from the lungs, and to prevent any small substance, or gaseous element, from entering the trachea. The articulatory organs are primarily intended for the ingestion, mastication and swallowing of food. Speech has been a development superimposed on a mechanism already organized for bodily necessities.

Consequently, since speech is an "overlaid" function, the growth of good speech is often slow and defective. Any malfunctioning of a part of the so-called speaking mechanism will interfere with adequate speech responses. Poor breath control often occurs in stuttering, nervous-rapid speech and various voice disorders. A defective larynx, or the improper functioning of the vocal folds, will often cause aphonia (complete lack of voice) or a hoarse voice.

A child may be incapable of producing a good "t" or "d" if his tongue cannot reach the palate just behind his upper teeth. Harelip and cleft palate are defects of the articulatory organs that must be repaired by surgery before any speech work can be done. An injury to the speech areas of the brain during birth, or during childhood, by accident or by disease, may affect the ability to speak. Even the functioning of the ear is important to speech acquisitions. Without hearing, speech cannot be heard, and consequently not learned. The physician must determine the structural adequacy of the speech organs. Until certain organic defects have been removed or repaired, no speech reeducation can profitably take place.

If the physical aspects of the speech mechanism are in perfect condition, the parent or teacher should check the child's psychologic and environmental influences. The child may feel insecure as a result of continual friction between his parents, or he may not be receiving proper speech stimulation.

Possibly, speech does not mature as rapidly or accurately as one expects because the mentality is too low. If low mentality is suspected, a reliable psychologist should be secured to give the individual Stanford-Binet intelligence test. However, many children with no speech or with unintelligible speech are unable to give any fair indication of their intelligence. Therefore, if the child is under 6 years of age, and appears bright in his activities, some speech training should be given. Intelligence often improves as speech is acquired.

Hereditary factors may affect the development of speech in some cases. It is believed that possibly certain weak physiologic and nervous structures may be inherited that are not conducive to the development of good speech. These mechanisms may be more susceptible to injuries, diseases, or shocks which seem to produce speech disorders in some children and not in others.

What general procedure should be taken with a speech defective? Of course, every speech case differs and no one set of rules can be set for all. The parent may be guided by the few following suggestions:

(1) A speech clinic or speech specialist will be helpful for diagnosis and guidance. Some universities maintain free clinics for consultations and treatment.

(2) A physician can determine if any organic defects exist to cause the speech inadequacy.

(3) Study the child's physical and psychologic environment for possible disturbing factors. Perhaps you have been guilty of using baby-talk to the child; you may irritate the child by too much quarreling in the home; you may not be using distinct speech yourself; or you may be too busy to help the child with his speech. A psychologist can help you to determine the environmental elements unsatisfactory for best speech development.

(4) Good health is necessary to aid the child in overcoming speech inferiority. Relaxation, proper exercise and rest, adequate diet and regularity of meals, sufficient sleep and cleanliness are all important to the maintenance of the best health.

(5) Begin action toward eradication of speech disorders as soon as possible. Every year of delay beyond 4 or 5 years of age will add to the difficulty of correction, as well as to the personality maladjustments of the child.

(6) Be sympathetic and cooperative with the child. Impatience with the child will only add to your problem.

Actual reeducation of the serious speech defective needs to be done by the speech specialist. If no qualified person can be found in the local school system, or in a university speech clinic, the parents, if financially able, should take the child to a private, boarding, speech clinic. Otherwise, they must rely on the suggestions found in books and magazines.

Next month Ruth Beckey continues this series of articles on speech correction with a consideration of the development of speech.

## A PARASITE FORMERLY THOUGHT HARMLESS NOW BELIEVED DISEASE FACTOR IN MAN

Giardia, a parasite formerly considered to be a harmless invader of the gastrointestinal tract (the stomach and intestine) is believed to have been the disease factor in a group of patients whose symptoms were relieved when the parasite was removed by the use of atabrine, Howard R. Hartman and Franklin A. Kyser, Rochester, Minn., report in *The Journal of the American Medical Association.*

"Giardia lamblia, or Giardia intestinalis, is a flagellate of the intestine," the two men explain. "Geographically, it has a wide distribution and knows no continental or climatic confines, although its occurrence is reported more frequently in warmer climates. It is widely disseminated through vertebrate hosts; it is found in mammals, reptiles, amphibians, birds and fish. . . . The Giardia of animals, according to Armaghan, Véghelyi and others, is a small species distinct from that of man and is not infectious to man. Giardia lamblia of the human being is a pear-shaped organism. . . .

"Giardia was discovered in the stools of human beings by Leeuwenhoek in 1681 and later was named after Lambl, who rediscovered it in 1859. The parasite is most abundant in the duodenums [the first portion of the small intestine next to the stomach] of human beings and of animals. In the United States, examination of stools reveals a varying incidence of the parasites. The greatest incidence of infection is among children. Boeck reported that 6.5 per cent of adults and 22 per cent of children are infected."

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**THUM**

# Drafts—now and then

(*Continued from page 625*)

fresh whole milk, with fresh meat occasionally. Other rats were given approximately what many poorer western people eat. After six months—a considerable epoch in the life span of a rodent—the first group developed beautifully and were described as "well-grown, sleek-coated, strong and active," but the rats fed exclusively on bread made from American white flour, jam, margarine, boiled vegetables and tinned meats were "ill grown, poor coated, weak and listless." Fifteen per cent of the better fed rats died (one by accident) while 45 per cent of the ill-fed group failed to survive.

It seems a long way from animals drafted for the purposes of preserving human life to men drafted for possible military purposes, but the connection is plain. If we do not wish to be "shocked" at the condition of school children or of those children grown to military age, we should begin with the generations to be and not think merely of tinkering with the mishaps in our anatomy consequent on past ignorance and indifference.

The requirements of those selected in the present emergency are much more exacting than for any previous periods. The figures for rejections will be correspondingly large and will not be comparable with those for 1918. No matter what these figures say, our young men are in better shape than ever before. By putting into practice the things now known, they of the next draft should prove still better specimens, whether for purposes of war or of peace.

Even if we cannot prevent the imperfections of the present generation, we might at least mend them, so far as they are mendable. We might at least avert the most common of our short-comings: the absence of teeth, for a stopped tooth is much better than a lost tooth and is counted by the army physician along with those undecayed. Also, there are still possibilities in the discovery and prevention of communicable diseases which cripple so many children and adults. In addition, the practice of what we have long known concerning feeding and resting; a purposeful life lived in moderation; and a reasonable degree of contentment with things as we find them in this topsy-turvy world should make us more fit for the business and pleasure of living. Our ignorance of the things which make for human health and happiness is still profound but we might put into practice the little we have learned.

# From Witch Doctor to Modern Dentist

(*Continued from page 640*)

and Galen—all of them noble and enlightened men in their time, but all of them badly mistaken about some of the elementary facts of anatomy and physiology—constituted the supreme court of medicine. It is regrettable that physicians followed their precepts rather than their example, for all three had reached some of their valuable conclusions from direct observation.

During the Dark Ages, however, there were a few men whose writings have survived to show us that not all our knowledge of human ills and their treatment is recent. With the break-up of the great civilizations of the East and the temporary loss of the learning of Greece and Rome during the period of the barbarian invasions, knowledge of the healing art passed into the hands of Jewish wise men, of Christian monks and friars, and of those westward-moving Moslems.

One of these, an Arabian surgeon who bore the impressive name of Abul-Casem-chalaf-ben-Abbas and who is now spoken of

variantly as Abulcasis and Albucasis, lived and worked in Spain during the Eleventh Century. He used cautery to stop toothaches, opened abscesses of the gums, scraped tartar off the teeth and performed many extractions. One of his notable operations, practiced for centuries afterward and occasionally even in recent years, was the replantation of an extracted tooth in the jaw from which it had just been removed—a procedure which seems in many cases to have been successful.

In his book, "De Chirurgia," Abulcasis not only describes his treatments for various ills but also presents some of the earliest pictures of dental instruments. Some of them are wicked-looking contrivances that must have inflicted on patients a torture to which the red-hot cauterizing iron would doubtless have been preferred. It is possible, though, that surgeons of this period and even earlier used some sort of anesthetic, for anesthesia was known from early times, although it did not come into general use until the Mid-Victorian age. Hemlock, hyoscyamus, mandrake and other drugs were used by surgeons to deaden the pain of patients undergoing surgical treatments, and the fact that such drugs were not used more widely can be attributed to the probability that many patients died from overdoses.

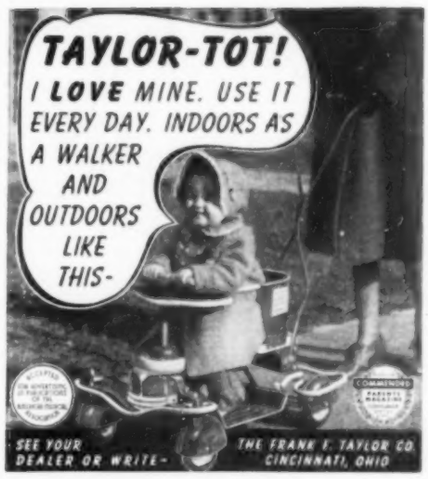
In considering the various types of persons who performed surgical operations during the Middle Ages, it is not strange that they sometimes killed their patients, even in performing minor operations. For hundreds of years the extraction of teeth and other surgical chores were attended to mainly by barbers, and the trades of barber and surgeon were for a long time practically identical. Historians of dentistry have concluded that there were few, if any, dentists, properly so-called, before the Seventeenth Century.

Physicians sometimes possessed a little knowledge of dental ills and treatments, but in general the care of the teeth seemed to have been left to uneducated men, such as "farriers, barbers, and swine-gelders," usually not even under the supervision of doctors. During the later Middle Ages there were "dentatores" to whom, together with the barbers, physicians are said to have abandoned the care of teeth. In Germany, for many centuries, not merely dentistry but also surgery and medicine were practiced illegally by "tooth-drawers, charlatans, wandering story-tellers, necromancers, Jews and even hangmen," says Guerini.

Several reasons may be given for the separation of the honored science of medicine from the despised art of surgery during the Middle Ages. There was, for one thing, a "white-collar" prejudice against the performance of manual work by persons of high position and education. Hence the physician came to leave the actual treatment of his patients to assistants, he himself merely supervising the work and issuing instructions. Then, too, dissection, which at one time included any cutting of the human body, alive or dead, was banned by both Christian and Moslem laws. Although this shrinking from bloodshed did nothing to prevent the almost continual warfare of these and later times, it effectively hindered the progress of both surgery and anatomic study.

Although it is not known whether dentistry was taught in medieval medical schools, students in those schools learned the sciences almost exclusively from ancient books. The Thirteenth Century is said to have marked an advance in surgery and anatomy, but surgery was still held to be inferior to medicine. Lanfranchi of Milan, an enlightened physician of the Fourteenth Century, protested the separation of the two, but apparently to little avail. As time went on, surgery, and with it dentistry, gradually passed out of the province of ignorant artisans and conscious charlatans and by the end of the Eighteenth Century had become a highly skilled and respected trade. And a trade it remained. To this day in England, although physicians are addressed as "Doctor," the surgeon is still called plain "Mister."

Not all the surgeons of the pre-Renaissance period, however, can be classed as mere artisans. Guy de Chauliac, called the greatest surgeon of the Middle Ages, was born in 1300 and lived to serve heroically the plague-stricken populace of Avignon during the Black Death of 1348-50. His book on surgery, translated into many different languages, was a standard authority for generations, although study of the book shows that in his day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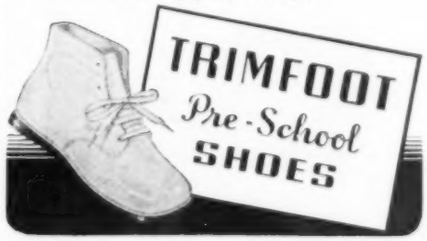

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dentistry "had not made any progress from the time of Abulcasis . . . and that this most famous surgeon did not contribute anything worthy of note" to its development. Nevertheless, it is interesting to know that de Chauliac commended various rules of hygiene, including the use of a dentifrice composed of honey, burnt salt and a little vinegar; and that he used a number of treatments designed to attack dental ills through an adjustment of the entire system, rather than through the specific area of the toothache. He also made use of artificial dentures and recommended the usual fumigations against worms in the teeth. In extractions he followed the crude and painful methods of Abulcasis, sitting on the ground with the patient's head gripped between his knees, but he may have anesthetized his patients before performing some of his surgical operations. His book describes a system of anesthesia by means of a sponge dipped in some such drug as had been used in ancient times and held to the patient's nostrils until he lost consciousness.

Next month Dr. Brekhus continues the story of the evolution of the modern dentist.

# Health Museums

(*Continued from page 619*)

according to the anatomic structure of the human body rather than by diseases, and include such items as the heart, lungs, hand, teeth and reproductive systems. One of the features of the Cleveland Museum is its participation in activities other than those taking place within its own walls. Civic organizations and schools will be the recipients from time to time of exhibit material on a loan basis.

### *American Museum of Health*

The American Museum of Health was responsible for the exhibits on medicine and public health at the New York World's Fair in 1939 and 1940. The building in which these exhibits were shown was of temporary construction, but a permanent building in an adjacent location has been assigned to the museum, to which most of the material will be moved.

Like the Mayo and the Cleveland Health Museums, this museum will be housed in its own building, with its own staff, and with exhibits devoted entirely to medicine and public health.

### *Other Museums*

There are a considerable number of other museums which deserve mention. Among them are the Newark Museum at Newark, N. J., the Buhl Planetarium at Pittsburgh and the Public Museum at Grand Rapids, Mich., all of which have recently completed successful exhibitions of health material.

Public minded citizens in various communities are seeking finances and locations for health museums. In San Diego, Calif., the building which housed the medical exhibits at the San Diego Exposition has been made available. In San Francisco there have been efforts toward capitalizing on the wealth of material included in the health exhibits at the Golden Gate International Exposition.

This medium of health education is gaining momentum all over the country.

## INFLUENZA A VACCINE

Evidence that vaccination against influenza, although it does not prevent the disease, may reduce the incidence and favorably modify its severity, is presented by Gilbert Dalldorf, Elinor Whitney and Arthur Ruskin, Valhalla, N. Y., in *The Journal of the American Medical Association.*

The value of influenza A vaccine was investigated by vaccinating 415 of 826 hospital employees. Those not vaccinated were used as controls. During an epidemic which followed a month after the vaccination, 77 cases of the disease developed, of which 32 were in the vaccinated group and 45 in the control group. The evidence indicated that the duration of the disease and the pulmonary involvement were reduced by vaccination.

# THE SCHOOL LUNCH

***The Joint Committee on Health Problems in Education of the National Education Association and the American Medical Association, realizing the importance of school lunches, has authorized this statement***

THE IMPORTANCE of nutrition to the health of children is recognized at all times. At a time when all factors in health and physical fitness of the American people are receiving special emphasis as a result of interest in the national defense program, special attention is being focused on the health and especially on the nutrition of school children.

It is known that many children attending school are in an unsatisfactory nutritional condition due to many causes, among which are economic inability of parents to provide proper food, faulty family and individual eating habits; racial family and individual food preferences; traditions; and parental ignorance of the principles underlying good nutrition. It is also known that an undernourished child is not in the best condition for learning or living.

In many instances the most important factor in poor nutrition is sheer inability to provide proper and sufficient food. As a means of combatting this condition it has been deemed advisable in many situations to provide lunches for children at school. In some localities surplus food commodities have been made available for use in the preparation of school lunches.

The school lunch should be recognized as serving three principal functions, namely: (a) supplementary feeding for children not properly fed at home; (b) feeding, or supplementary feeding, for children unable to return to their homes for luncheon and unable to bring adequate lunches to school; (c) an important aid in the teaching of nutrition.

The school lunch, therefore, should be nutritionally well con-

*Cy La Tour*

In some localities surplus food commodities have been made available for use in the school lunch programs.

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ceived and as closely as possible adapted to the needs of the child.

The principal nutritional deficiencies most commonly found in American diets are calcium, vitamin $B_1$ (thiamine) and, in certain geographical areas, iron, iodine and the pellagra-preventive factors (nicotinic acid, riboflavin). Among under-privileged groups where money is not available for the purchase of adequate food, there may be a deficiency of all dietary essentials, including protein and even total calories.

The most practical source of calcium in the American diet is milk. This food also supplies important amounts of protein, riboflavin, nicotinic acid and other vitamins and minerals. Other foods which are important sources of minerals are eggs (phosphorus and iron), cheese (calcium and phosphorus), vegetables and fruits (many minerals, including calcium and iron), and meat (iron).

The foods which supply vitamin $B_1$ (thiamine) are whole grain cereals or "enriched" flour products. Nuts (especially peanuts and walnuts) and legumes (dried peas and beans) also are rich sources. Milk and eggs furnish appreciable amounts if consumed in the quantities usually recommended for children's diets. Foods which are important sources of other vitamins are green leafy vegetables and butter (vitamin A), citrus and other raw fruits and vegetables, especially tomatoes (vitamin C) and meats (riboflavin and nicotinic acid; some meats such as pork are rich sources of thiamine, and glandular organs are rich sources of vitamin A).

The foods which best supply proteins include meat, milk, eggs, fish, cheese, beans, peas and soy beans. These foods are all important for their content of other dietary essentials, as well as for the protein which they supply.

School lunches should emphasize foods mentioned in the foregoing paragraphs, in attractive, palatable dishes temptingly served. For the sake of variety and attractiveness, as well as for educational purposes, school lunches should be varied according to a sufficiently irregular schedule so that Monday will not be synonymous with carrots, Wednesday with spinach, etc. Emphasis should be placed on classes of foodstuffs rather than on specific foods, except in the case of milk. Experience should teach children how to substitute one valuable food for another, according to season, availability, price and similar factors. For example, when oranges and other citrus fruits are not available, vitamin C can be supplied by including in the diet tomatoes or tomato juice, raw cabbage and an increased proportion of other raw fruits and vegetables, and potatoes.

Food products available locally and in common use should be utilized whenever possible and their value thus demonstrated. Food preferences within food classes should be respected when possible, but encouragement should be given to the development of new food likings. An open mind toward unfamiliar foods should be cultivated. Sufficient time should be allowed for leisurely eating; dawdling should not be encouraged.

Food should be prepared with a due regard for the preservation of its original food values. It is especially important that over-cooking and repeated warming-over should be avoided. Vegetables and fruits when cooked should be served promptly with their original juices, or the latter should be used in other parts of the menu.

One hot dish is generally considered desirable in the school lunch, at least in cool or cold weather, but what this dish contains is more important than the mere fact that it is hot.

Careful cleanliness of utensils and sanitary handling of food are essential. Seek cooperation with health departments, whose responsibility lies here as well as in public eating places. All persons handling food should have clean hands, washed immediately before coming to the preparation of food. All persons should wash their hands before eating.

In order to realize the educational possibilities of the school lunch most fully, participation by children is important. This can begin with menu planning and can include participation in marketing and preparation. Discussion of the reasons for serving certain kinds of food and for choosing certain methods of preparation is useful. Teaching units can and should be correlated with the school lunch. The example of the teacher also is a potent factor in realizing the educational possibilities of the school lunch.

# Recreational Therapy

(Continued from page 607)

relationship, the mentally sick patient may experience in a controlled atmosphere the give and take of social relationships. In the fun and excitement of the game, he may merge into the interest and understanding of others. It has been aptly stated that the psychotic patient has been enamoured with the "Take" of life. On the playground he may possibly fall in love with the "Give" as well.

Recreational therapy also helps the patient express himself normally. Visitors remark on the surprising normality of many of the most sick psychotic patients while they are playing. Psychiatrists call attention to the fact that many of the most distorted persons within this category may be approached most effectively on the sensory level of seeing, feeling and touching. For example, the patient who is so sick mentally that he cannot carry on a coherent conversation may possibly be appealed to by simply tossing a ball to him. In many cases he will catch it and from such a fundamental sensory level he may progress until he is able to play a good game of baseball. He gains much satisfaction from such physical activity, frequently producing a significant feeling of confidence in his ability to hold his own in such a normal experience.

One of the most important and frequently most difficult tasks of the doctors, nurses and others concerned with caring for the patient is to obtain his cooperation and good will. In one large mental institution the medical staff organized a soft ball team and arranged games between themselves and their patients. The good-natured rivalry and comradeship engendered in the game was reflected in a much more cooperative and friendly therapeutic relationship. Recreation, in addition to creating a better rapport between doctor and patient, assists the latter to "give in," to become more accessible and modifiable to other forms of treatment. In fact, the effective functioning of all adjunct therapies in the hospital is generally acknowledged to depend on the good will and active, understanding cooperation of the patient.

A mother coming to visit her son in a mental hospital was directed to the tennis courts where he was actively playing. She remarked to the doctor that she was so happy to see him on the outside getting so much spontaneous fun out of sport, instead of seeing him locked up inside as she had sadly anticipated. Therapeutic recreation has a great opportunity and obligation to use its many potentialities for the purpose of making the hospital environment more homelike and humanitarian. Mental hospitals are today experiencing pressure from the outside to further humanize their organization and surroundings. This pressure is being more than equaled from within as hospital administrators are adding tennis courts, facilities for volley ball, softball, baseball, shuffleboard, croquet, folk dancing, bridge and many other forms of recreation to brighten the hospital atmosphere. They are teaching their personnel the fundamental importance of making friends with the patients and, for this purpose, they are finding mutual participation in play activities of considerable value.

Medicine marches on. A significant step is being taken today as the many forms and grades of recreation are being raised to the dignity of a treatment for disease, not as an end in itself but as an adjuvant to the therapeutic trinity, the balanced ration for health—work, rest and recreation.

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# Medical News

## OF THE MONTH

### Restoration of Skull Defects

Vitallium, an alloy of cobalt, chromium and nickel, may be safely used as a plate with which to repair defects of the skull, Fred W. Geib, Rochester, N. Y., reports in *The Journal of the American Medical Association.*

He reports 3 cases in which vitallium was used to repair cranial defects and says that at the end of eleven, twelve and six months, respectively, x-rays showed no increase in the size of the bony defect nor any shrinkage of the skull away from the vitallium plate. Dr. Geib says: "Autogenic bone grafts have given the best results up to the present time, although they require secondary incision and complicated operative procedures and may be absorbed.

"Vitallium is neutral in vivo [in living tissue] and can be used for repairing defects of the skull. It is rigid, stronger than bone, noncorrosive and inexpensive and requires a much less complicated cranioplastic operation than any in use at the present time. The patient can be back at work on heavy duty within three weeks after operation.

"A vitallium plate makes the strongest and least complicated plastic repair of the skull known."

### High Pressure Apparatus

Another warning about the serious injuries that may result from accidents with high pressure appliances, which is particularly significant in view of the increasing industrial activities for national defense, is contained in *The Journal of the American Medical Association* in a report by John E. Hughes, Shawnee, Okla., of a man who had to have two fingers amputated as the result of accidental injection of oil from the nozzle of a Diesel engine into the palm of his hand.

"The rapidly increasing use of high pressure appliances in industry, in which oil or grease under 4,000 to 7,000 pounds pressure is forced through small caliber openings generating an energy when misdirected," the author says, "will undoubtedly result in severe tissue damage, often resulting in the necessity for amputation of fingers or other parts affected. . . .

"The Diesel engine, generally used in small maritime vessels, is rapidly becoming the power engine in many diversified industries. In the oil fields the Diesel oil used is of low viscosity and highly volatile, approaching the consistency of kerosene. A jet of this oil as ejected from the nozzle under 5,000 pounds pressure, with a muzzle velocity of a rifle, is capable of severe damage to tissue when contact or near contact to the nozzle is provided."

### Arthritis of the Jaw

From rest of the jaw, massage after the application of a skin anesthesia and the application of heat, a good functional result may be expected in the treatment of the temporomandibular (temple and jaw) joint when it is involved in rheumatoid arthritis, Theodore B. Bayles and Leslie A. Russell, Boston, report in *The Journal of the American Medical Association.*

### Human Bite Infections

Results obtained by cleansing of the wound with soap and water within a few hours after the injury make R. E. Speirs, Dodge City, Kan., believe that it is the method of choice for prophylaxis of human bite infections, he states in *Surgery, Gynecology and Obstetrics.*

By this means, he says, the healing time of the wound is shortened and tissue destruction is minimized. In 35 patients the average time for complete healing was seven and eight-tenths days. In 60 other patients healing had progressed sufficiently far in an average time of four and nine-tenths days to warrant discharge. He advises that it is a good rule to consider any small penetrating wound on the hand as a human bite until proved otherwise.

### Protamine Zinc Insulin

Protamine zinc insulin, the slow acting insulin, not only exerts a more favorable effect on diabetes than regular insulin, but it also seems to benefit the clinical course of complicating tuberculosis, Herman O. Mosenthal and Morton F. Mark, New York, point out in *The Journal of the American Medical Association.*

### Controlling Therapeutic Malaria

Another solution to the problem of keeping under control the malaria induced in a patient for treatment of syphilis of the central nervous system and dementia paralytica (a chronic brain disease due to syphilitic infection) is reported in *The Journal of the American Medical Association* by C. W. F. Winckel, Amsterdam, Netherlands. He reports that neoarsphenamine will temporarily arrest the malaria when it is necessary to do so in order to enable the patient to recover sufficiently to continue with the malaria treatment for the time required to obtain the maximum benefits from the fever.

### Banana Diet for Typhoid Fever

The beneficial results obtained by feeding abundant amounts of banana to 3 children ill with typhoid warrant further investigation of the possibilities of the diet, W. F. Schoffman, Phoenix, Ariz., reports in the *Journal of Pediatrics.*

Two of the patients were treated at home, and the laboratory data are not complete. All 3 patients, however, were so severely ill that their improved general state following the institution of the fruit and fruit-milk diet was not expected so soon in typhoid patients. The temperature curve decreased strikingly in from two to five days, even though the stools did not show such prompt improvement. The period of acute symptoms was shortened. The stools were negative for typhoid in from three to four weeks after onset of symptoms.